



## Chapter 5

# Population

### Introduction

Among all resources available in any society, 'people' or human resources are valued as the most fundamental. Human resource is critical because utilisation of other resources, such as land, capital and organisation depends, *inter alia*, to a large extent on the nature of human beings. The current paradigm of development focusing on 'quality of life' puts people at the core of planning for reasons of equity, efficiency and dignity. Human development, defined as an expansion of human capabilities, widening of choices, enhancement of freedom and fulfillment of human rights, has come to be accepted as the new model of development, instead of a mere rise in incomes and growth in outputs (Fukuda-Parr and Kumar 2003). Hence, the essence of human resource development involves broadening the horizons of quality, so as to transform 'population' to 'people'. A nation is its people, and in the ultimate analysis, all development must benefit people, individually as well as collectively.

Human resource development is intimately tied to population dynamics, more so in South Asia, where high fertility, rapid population growth and high dependency ratios make economic growth and human resource development relatively more difficult (Jones 1992). Population growth and distribution patterns are also essential to understand the human resource assets, their values and potential use. In addition, demographic changes have direct as well as indirect implications for human resource development, which are complex and synergic (Jones 1992). To elaborate, higher infant mortality means more requirements of health care services; larger working age population cause pressures to create gainful employment; and increasing life expectancy may induce more social security measures. Implications, goals and strategies of human

development in any state are direct functions of its population dynamics. Public expenditure on provision of health, education, employment, energy, environment, transport, technology, communication and social security services are largely determined by the quality and quantity of human population. Besides, in the era of liberalisation, demographic dynamics of the population of a nation also affects the process of globalisation. Favourable changes in the population structure boost economic growth and influence the movement of people, products, and investment capital among countries (La Croix *et al.* 2003).

The development of national human resources in India is contingent upon the population stabilisation goals at a sustainable level (National Commission on Population 2001, Planning Commission). In India, three broad themes of the Tenth Five Year Plan, namely, a) growth, poverty and employment, b) social development, and c) sustainability of growth and development revolve around the human resource component. The final assessment of the development process, or for that matter any plan, lies in the way it alleviates deprivation and enhances the well-being of human beings. Appraisal of existing human resources in Himachal Pradesh in a demographic perspective not only helps in understanding the assets and liabilities in launching plan efforts but also in setting targets for achievements and deciding priorities in policy formulation and programme implementation. Examination of demographic dimensions is essential because development cannot be assessed in terms of generation of economic growth alone. In order to be more meaningful, it has to address the key objective of reduced population growth, social integration, removal of disparities, economic empowerment and also protection of environment. Profiling of population in the state helps to identify areas that need policy and programme interventions, to

set near- and far-term goals, and to decide priorities, besides understanding them in an integrated structure.

This chapter deals with the overall demographic situation in Himachal Pradesh, the scope being confined to salient features in demographic development in a framework of inter-state comparison, elements of population change and focus on future population perspectives. Based on data from several sources, within and outside government, it covers a range of issues, such as population structure, fertility, mortality, family planning, ageing, sex preference, sex-ratio imbalances and others. It summarises the population dynamics in the state since its creation till the beginning of the twenty-first century and highlights the demographic dimensions of development through an independent review.

### Population Change

States in India are experiencing demographic transition, the routes of transition being determined largely by local living conditions. Changes in the natural increase of population, brought about primarily by declining fertility and mortality, suggest that Himachal Pradesh is no exception to this demographic transition. Such transition, along with forces of migration, is affecting population size, age structure, sex composition and distribution patterns that are important indicators of human resources in the state. According to the 2001 Census, the state accounted for a meagre share of the total population of India (0.59%), the same as its share in 1991. The total population in the state grew from 1.9 million in 1901 to 6.1 million in 2001, making a net addition of 4.2 million in the twentieth century. In three decades, since Himachal Pradesh attained full statehood, a little more than a quarter million (2.6) was added to its population. The average annual population growth rate crossed the two per cent mark and peaked at 2.37 per

cent during 1971-1981. The last decade of the twentieth century recorded definite signs of deceleration in the momentum of population growth in Himachal Pradesh, with the mean annual growth rate (1.75%) falling not only below the 'standard' two per cent mark but also to pre-1951 level. Much of this population expansion in the state has been indigenous, as the contribution of in-migration from other states in India and from countries outside India was insignificant. To quantify, the share of such international and interstate migrants in total population of the state in 1991 varied between 2.7-5.2 per cent depending on the definition of migration adopted in the census, and it is unlikely that this component will alter substantially in the 2001 census. In the inter-censal period 1991-2001, the households in Himachal Pradesh enlarged from 0.969 million to 1.241 million growing by 28 per cent and the average size of households reduced to 4.9 persons from 5.4 persons, recording the impact of declining population growth rate.

Population size is one of the key determinants of the labour force and its participation rates. With young-age population declining due to fertility reduction and the old-age population not rising commensurately to offset this fall, it is often said that the countries enjoy 'Demographic Bonus' during the course of demographic transition. In a free market, greater size of workforce released from transitional population can make production cost-effective and the economy more competitive, provided appropriate and timely education, health and skill investments are undertaken to effect better capability.

The age structure of the population, on the one hand expresses demographic dimensions of development, and on the other delineates the challenges for development. On the basis of selected age and sex structures, Table 5.1 outlines some planning imperatives

TABLE 5.1  
Human Resources, Himachal Pradesh (1971-2001)

Year	Total Population		Reproductive Age Women (15-44 years)		Working Age Population (15-59 years)		Aged Population (60 plus)		Population (7-14 years)		Child Population (0-6 years)	
	Male (in '000)	Female (in '000)	(in '000)	% Share in Total Female Pop.	(in '000)	% Share in Total Pop.	(in '000)	% Share in Total Pop.	(in '000)	% Share in Total Pop.	(in '000)	% Share in Total Pop.
1971	1767	1693	725	42.8	1786	51.6	248	7.2	725	21.0	701	20.3
1981	2170	2111	920	43.6	2264	52.9	321	7.5	892	20.8	802	18.7
1991	2617	2553	1176	46.0	2898	56.0	421	8.1	998	19.3	840	16.2
2001	3085	2992	1418	47.4*	3519	57.9*	607	10.0	1118	18.4	769	12.7

Source: 1. Socio-cultural Tables, Census of India 1971, 1981, 1991, Himachal Pradesh.

2. Population Totals, Paper 1 of 2001, Census of India 2001, Himachal Pradesh.

Note: \* Indicates that the figures are estimated.

in human development that emanate from demographic effects in Himachal Pradesh. The growth of female population in the reproductive age group (15-44 years) in both absolute and relative senses reinforces the need for levels of investment in health, nutrition and related areas. In the same way, the growth in the workforce from 1.79 million (52% of total population) in 1971 to 3.52 million (58% of total population) in 2001, raises questions on provisions for productive employment and opportunities for gainful participation in economic activity. The result of fertility decline is manifested in the shrinking child population in the age group 0-6 years. The drastic decline in the number of such young age groups (by 8.5%) from 0.84 to 0.77 million in the last decade is attributed to fall in fertility and may initiate the need for rethinking on resource allocation for education and other factors for the needs of the younger generation. Additionally, the implications of life cycle and changing age structure for consumption, saving, investment, etc., as indicated above, need to be factored into planning perspectives in Himachal Pradesh.

### Fertility Transition

Limiting population growth in India is at the top of the national agenda and the goals set in the *National Population Policy 2000* (NPP 2000) mirrors this to a

large extent. As a result of socio-economic development and family planning intervention, India recorded significant fall in fertility, fairly widespread across the states, in the post-independence period. Yet, regional variations have continued in the onset and speed of fertility transition in the country. In the north, Himachal Pradesh has undergone substantial transformations in its fertility profile during the last three decades of the twentieth century.

### Levels and Trends

Fertility has been consistently falling in Himachal Pradesh, as indicated by trends in total fertility rates (TFRs) since the beginning of the 1970s for major Indian States (Table 5.2, Figure 5.1). Though the southern states are ahead in fertility transition and have total fertility rates lower than the northern counterparts, Himachal is a classic case that blurs this north-south divide. The decline in fertility seems to have accentuated in the 1980s as compared to the 1970s, and remained consistent till the end of the 1990s.

The decline in fertility is reasonably widespread in the state and is not confined to any specific region or community. Individual districts along with rural and urban areas are experiencing transition in fertility in different ways, depending on changes in local

TABLE 5.2  
Fertility Decline in Major States, India (1970-72 to 1997-1999)

State	Total Fertility Rate (TFR)				Per cent Decline in TFR				
	1970-72	1980-82	1990-92	1997-99	1971-81	1981-91	1971-91	1991-98	1971-98
A.P.	4.7	3.9	3.0	2.4	17.0	23.1	36.2	20.0	48.9
Assam	5.5	4.1	3.4	3.2	25.5	17.1	38.2	5.9	41.8
Bihar	—	5.7	4.6	4.4	—	19.3	—	4.3	—
Gujarat	5.7	4.4	3.2	3.0	22.8	27.3	43.9	6.3	47.4
Haryana	6.4	5.0	3.9	3.3	21.9	22.0	39.1	15.8	48.4
<b>H.P.</b>	<b>4.7</b>	<b>4.0</b>	<b>3.1</b>	<b>2.4</b>	<b>14.9</b>	<b>22.5</b>	<b>34.0</b>	<b>22.6</b>	<b>48.9</b>
J & K	4.8	4.4	3.3	—	8.3	25.0	31.3	—	—
Karnataka	4.4	3.6	3.1	2.5	18.2	13.9	29.5	19.4	43.2
Kerala	4.1	2.9	1.8	1.8	29.3	37.9	56.1	0.0	56.1
M.P.	5.7	5.2	4.6	3.9	8.8	11.5	19.3	15.2	31.6
Maharashtra	4.5	3.7	3.0	2.6	17.8	18.9	33.3	13.3	42.2
Orissa	4.8	4.2	3.3	2.9	12.5	21.4	31.2	12.1	39.6
Punjab	5.3	4.0	3.1	2.6	24.5	22.5	41.5	16.1	50.9
Rajasthan	6.3	5.4	4.5	4.2	14.3	16.7	28.6	6.7	33.3
Tamil Nadu	3.9	3.4	2.2	2.0	12.8	35.3	41.0	9.1	48.7
Uttar Pradesh	6.7	5.8	5.2	4.7	13.4	10.3	22.4	9.6	29.9
West Bengal	—	4.2	3.2	2.5	—	23.8	—	21.9	—
<b>INDIA</b>	<b>5.2</b>	<b>4.5</b>	<b>3.7</b>	<b>3.2</b>	<b>13.5</b>	<b>17.8</b>	<b>28.8</b>	<b>13.5</b>	<b>38.5</b>

Source: Statistical Report (different volumes), *Sample Registration System (SRS)*, Registrar General, India.

Note: — Indicates data not available.

conditions, which often act as important inducements for the determination of family size. Substantial fertility reduction in Himachal Pradesh, despite some of the key social indicators, such as emerging son preference, sizeable presence of socially backward population and relatively higher infant mortality being against the decline, is a manifestation of the primacy of intervention by selected development factors, namely, the family planning programme, female literacy, health care delivery and financial prosperity at the household level. Studies to assess the role of economic aspirations, family systems and social status indicators in the fertility transformations, are virtually non-existent.

TABLE 5.3

**Crude Birth Rate (CBR) and Total Fertility Rate (TFR), India and Himachal Pradesh (1971-73 to 1999-2001)**

Period	India		Himachal Pradesh					
	CBR Total	TFR Total	CBR			TFR		
			Total	Rural	Urban	Total	Rural	Urban
1971-1973	36.3	5.1	36.0	36.8	23.5	4.9	5.0	2.9
1972-1974	35.3	5.0	35.2	36.0	23.3	4.7	4.8	2.8
1973-1975	34.8	4.9	35.0	35.9	22.2	4.7	4.8	2.6
1974-1976	34.4	4.8	33.3	34.1	21.9	4.4	4.5	2.6
1975-1977	34.2	4.7	32.5	33.3	20.8	4.3	4.4	2.5
1976-1978	33.3	4.6	30.7	31.4	21.8	4.0	4.1	2.5
1977-1979	33.1	4.5	30.5	31.2	21.2	3.8	3.9	2.4
1978-1980	33.3	4.4	30.2	30.6	21.2	3.7	3.8	2.4
1979-1981	33.8	4.4	31.6	32.2	19.2	3.8	3.9	2.2
1980-1982	33.8	4.5	32.0	32.8	20.0	4.0	4.1	2.3
1981-1983	33.8	4.5	32.3	33.1	20.8	4.0	4.1	2.4
1982-1984	33.8	4.5	32.1	32.7	22.9	4.0	4.1	2.6
1983-1985	33.6	4.4	31.3	31.9	23.2	3.9	4.0	2.6
1984-1986	33.2	4.3	30.5	31.1	22.4	3.7	3.8	2.5
1985-1987	32.6	4.2	30.5	31.1	22.2	3.6	3.7	2.4
1986-1988	32.1	4.1	31.2	31.9	21.8	3.6	3.7	2.4
1987-1989	31.5	4.0	30.2	30.8	22.0	3.5	3.6	2.4
1988-1990	30.8	3.9	29.1	29.7	21.0	3.3	3.4	2.3
1989-1991	30.1	3.8	27.9	28.5	19.6	3.1	3.2	2.1
1990-1992	29.6	3.7	28.0	28.6	19.5	3.1	3.2	2.1
1991-1993	29.1	3.6	27.8	28.5	19.6	3.0	3.1	2.1
1992-1994	30.4	3.5	27.0	27.6	19.6	2.9	3.0	2.1
1993-1995	29.9	3.5	26.0	26.6	18.8	2.8	2.9	2.0
1994-1996	27.4	3.3	24.8	25.4	17.7	2.7	2.8	1.9
1995-1997	27.7	3.4	23.6	24.1	17.3	2.5	2.6	1.8
1996-1998	27.1	3.3	22.7	23.2	17.0	2.4	2.4	1.8
1997-1999	26.6	3.2	23.0	23.5	16.9	2.4	2.4	1.8
1998-2000	26.1	—	22.8	23.3	16.9	—	—	—
1999-2001	25.7	—	22.3	22.7	16.8	—	—	—

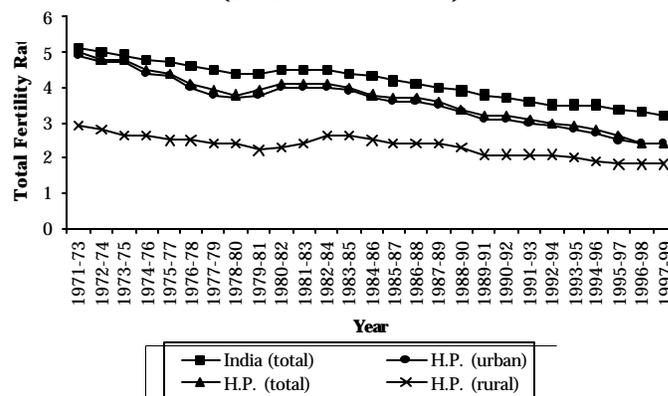
Source: Statistical Report (different volumes), Sample Registration System (SRS), Registrar General, India.

Note: 1. Rates for India exclude Mizoram till 1995, and Jammu and Kashmir from 1991 onwards.

2. — Indicates data not available.

FIGURE 5.1

**Total Fertility Rate, India and Himachal Pradesh (1971-73 to 1997-99)**



Source: Statistical Report (different volumes), Sample Registration System, Registrar General, India.

### Replacement Level of Fertility

With fertility falling significantly in Himachal Pradesh during the last three decades of the twentieth century, it is appropriate to look at the far-term prospects of reaching the replacement level. Since achievement of replacement-level fertility is crucial for the long-term objective of 'Stable Population' by 2045 in India, and the medium-term objective of reducing the total fertility rate (TFR) to replacement level by 2010, as laid down in the *National Population Policy 2000* (NPP 2000), it is pertinent to examine the position of Himachal Pradesh in relation to the national target. Recent indications do signal the possibility of the state reaching the replacement level by the year 2010. Himachal Pradesh is yet to attain the replacement level of fertility. National Family Health Survey (NFHS) estimates the state's fertility to be two per cent above the replacement level as against the SRS (1999) estimate of 13 per cent and MICS (2000) estimate of 25 per cent. According to NFHS, urban areas have fertility 20 per cent below the replacement (TFR being 1.74), whereas in the rural areas fertility (TFR being 2.18) remains four per cent higher than the replacement level. With nearly nine-tenths of the population still living in villages that are very much scattered and remote, the prospects of stabilising the population in Himachal Pradesh in near future depends on the success of the efforts in rural areas. This foreseeable task is worth undertaking given volume of unwanted fertility in the state, estimated to be 30 per cent of total fertility (NFHS 2002).

### Age Pattern of Fertility

The age pattern of childbearing in Himachal Pradesh has undergone a change during the closing decades of

the twentieth century, with fertility limitation being increasingly common at relatively old ages. Though fall in fertility has been observed among women in all ages between 1981 and 1999, the contribution to the fertility decline has been mostly from women in very early (age 15-19) as well as late reproductive years (age 30-34), according to the SRS (Table 5.4, Figure 5.2). Two successive rounds of NFHS, recording a rapid fall in fertility in Himachal Pradesh during the 1990s, higher than the national decline, also document lesser contribution by younger women (age 15-29) than by older women (age 30-44) to overall decline in fertility. Both the SRS and NFHS report almost no childbearing among women in the age group 44-49 years. Relatively less enthusiasm by women in the age group (20-29 years) in limiting fertility can be attributed to social and cultural reasons that stress the need for child-bearing immediately after marriage to establish fertility potential. Child-bearing, coming shortly after marriage, is mainly concentrated in 20-24 and 25-29 age groups, which account for 47 and 30 per cent of the births respectively, in the entire reproductive period of women (NFHS 2002). Such concentration of births is more severe among rural than urban women in Himachal Pradesh: 78 per cent in rural areas as against 71 per cent in urban areas. Interestingly, between 1990-92 and 1996-98, the contribution of women aged 20-29 years to overall fertility increased from 73 per cent to 78 per cent (NFHS), and is a pointer to changing reproductive strategies of Himachali couples, who do not want to prolong childbearing and finish it as quickly as possible in response to larger social and economic changes.

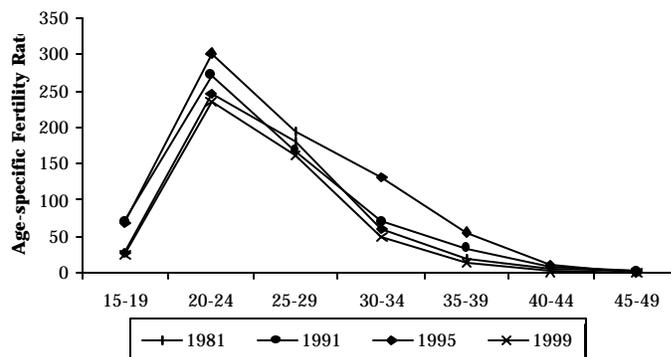
TABLE 5.4  
Age-Specific Fertility Rates (ASFRs),  
Himachal Pradesh (1991-1999)

Age group (in completed years)	1981	1991	1995	1999	Per cent decline in ASFR(1981-99)
15-19	68.6	69.2	28.4	24.8	63.8
20-24	301.8	271.9	245.9	236.6	21.6
25-29	193.3	169.0	180.9	161.2	16.6
30-34	133.0	69.8	59.6	49.9	62.5
35-39	55.2	34.6	20.6	14.0	74.6
40-44	9.4	8.5	6.9	1.4	85.1
45-49	0.0	1.5	1.4	0.0	0.0

Source: Statistical Report (different volumes), Sample Registration System (SRS), Registrar General, India.

FIGURE 5.2

Age-specific Fertility Rate, Himachal Pradesh (1981-1999)



Source: Statistical Reports (different volumes), Sample Registration System (SRS), Registrar General, India.

varies most according to economic and social backgrounds. In Himachal Pradesh, fertility differentials are sharp when groups are compared in terms of selected economic and social background characteristics. As seen from the recent round of NFHS, variations in fertility (measured in terms of differences in total fertility rates, current pregnancy rates, and mean number of children ever born to women in 40-49 age group) according to the standard of living in the household, educational attainment of women, place of residence of the family, religion and caste-status of the household, are striking. For instance, the TFR of women in households with a low standard of living (2.49) is nearly 1.3 times higher than their counterparts with a high standard of living (1.89); for illiterate women (2.85) it is 1.4 times higher than that of women with education of high school and above (2.04). Women in urban areas also report 40 per cent lower TFR (1.74) than women in villages (2.18). Since there exists a great degree of concurrence between caste status and economic well-being, inequality in the economic sphere often gets translated into demographic outcomes. In Himachal Pradesh, women from Scheduled Caste, and other backward caste women, including the Scheduled Tribe women, record higher levels of TFR (2.15 and 2.37 respectively) as against the women from other castes (2.05). The pregnancy rate is substantially higher among Scheduled Caste women (5.1) than among women from other backward caste (4.2) and non-backward populations (4.0). Variations in fertility due to religious beliefs are of less consequence in Himachal Pradesh, as Hindus alone account for approximately 96 per cent of the total population, according to the 1991 Census. According to the NFHS, demographic reflections of social inequalities are clear

### Fertility Differentials

Social and economic conditions considerably determine the course of fertility transition, as fertility

and still persist. Also, over time, there has been little change in relative positions of communities by social or economic class in terms of the respective contribution to overall fertility, though the major social and economic groups have shown a decline in current pregnancy rates and fertility.

### *Prospects for Further Decline*

Pathways to fertility decline are complex, changing and non-universal. As fertility declines in a variety of situations, generalisations about social, cultural and economic causes of fertility decline are not easy and seldom necessary. However, routes to lower fertility in different settings have been historically documented and have extensively improved the understanding of reproduction patterns. In the absence of systematic explorations of receding fertility in Himachal Pradesh with a focus on dimensions of development and mechanisms of influence, existing evidence point to overall effects of sustained economic prosperity, relatively less gender disparity, impact of a strong family planning programme, greater access to health care services, superior infrastructure in terms of housing and basic amenities, improved exposure to education and communication, better literacy among males and females, and more recently termination of pregnancies, etc.

While it is important to acknowledge the fact that fertility has fallen considerably since the early seventies, despite the constraints of a mountainous state, it is more useful to explore the prospects of further decline in the near future. The key to this lies in eradicating the existing strong son preference, in lengthening the interval between two successive births, spreading out childbearing among women aged 20-29, raising the female median age at marriage beyond the current level of 18.6 years, wiping out early marriage, reduction in the current level of infant mortality, augmenting contribution by socially and economically poor sections of the society, progress in eliminating the unmet needs for contraception, change in reproductive strategies among younger couples and finally overall advance in living conditions.

### **Mortality Change**

Reduction in overall mortality is an important objective of planning since the First Five Year Plan. Continued commitment to essential primary health care, provision of emergency and other life services in the public domain during the Tenth Five Year Plan (2002-2007) are pointers towards this (Planning Commission 2001). The *National Population Policy 2000* (NPP 2000)

and the *National Health Policy 2002* (NHP 2002) have also simultaneously reinforced the need for mortality decline. Programmes are afoot at the national as well as state levels to improve overall survival conditions, as a result of which mortality decline is visible among segments of population in most of India. A dramatic fall in mortality has been also recorded in Himachal Pradesh during the last three decades of the twentieth century.

### *Levels and Trends*

In Himachal Pradesh, data show that the crude death rate (CDR) declined from around 15 deaths per 1,000 population in the early seventies, to seven deaths per 1,000 population at the beginning of twenty-first century (Table 5.5). This reduced mortality is an integral part of the demographic transition in the state (Figure 5.3), and has extensively contributed to increase in life expectancy at birth and at other ages. Though overall mortality in Himachal Pradesh has been consistently lower than the national average, yet, over time, the advantage that the state initially had, in terms of lower probability of death, has remained substantially unchanged, except for some fluctuations in the late seventies and eighties. For example, in little less than three decades, the advantage of Himachal Pradesh over the national mortality situation remained almost same, from 14.0 per cent in 1972-74 to 15.3 per cent in 1999-2001. Both rural and urban areas gained consistently from the onset of mortality decline, even if rural death rates continue to exceed urban death rates for a variety of reasons in Himachal Pradesh, as elsewhere in India. Comparison of NFHS results between 1991-92 and 1997-98 also supports the declining trend in overall death rates in Himachal Pradesh.

### *Age-specific and Sex-specific Death Rate*

In addition to the rural and urban variations, the mortality situation is also better understood through its sex composition and age pattern. Over the years, notwithstanding the early-age vulnerability to death, gains from mortality decline are distinct among males and females in Himachal Pradesh (Table 5.6), with net gain to males surpassing that to females in the process of mortality transition. In fact, a notable feature of mortality transition in Himachal Pradesh between 1981 and 1999 has been larger gains for the males than for females in general, as evident from the overall gap in CDR between males and females. The narrowing down of sex differentials in mortality in 1999, as against 1971, seems to have been the result of comparatively slower gain to females both in rural and urban areas.

TABLE 5.5

**Crude Death Rates (CDR), India and Himachal Pradesh (1971-73 to 1999-2001)**

Years	India Total	Himachal Pradesh			Total Comparative Mortality Advantage of H.P. (in per cent)
		Total	Rural	Urban	
1971-1973	15.9	14.6	15.1	6.9	8.2
1972-1974	15.7	13.5	13.9	6.9	14.0
1973-1975	15.3	12.6	13.0	7.3	17.6
1974-1976	15.0	13.0	13.4	7.1	13.3
1975-1977	15.2	12.8	13.2	6.5	15.8
1976-1978	14.5	12.3	12.7	6.3	15.2
1977-1979	13.9	11.3	11.5	5.9	18.7
1978-1980	13.1	10.9	11.2	6.1	16.8
1979-1981	12.7	10.6	11.0	5.6	16.5
1980-1982	12.3	10.3	10.7	5.2	16.3
1981-1983	12.1	10.3	10.6	5.3	14.9
1982-1984	12.1	10.0	10.3	5.7	17.4
1983-1985	12.1	10.4	10.6	6.4	14.0
1984-1986	11.8	9.8	10.0	6.7	16.9
1985-1987	11.3	9.2	9.4	6.3	18.6
1986-1988	11.0	8.9	9.1	5.9	19.1
1987-1989	10.7	8.9	9.2	5.5	16.8
1988-1990	10.3	8.9	9.1	6.0	13.6
1989-1991	9.9	8.7	8.9	6.1	12.1
1990-1992	9.9	8.7	9.0	5.6	12.1
1991-1993	9.7	8.8	9.1	5.2	9.3
1992-1994	9.5	8.7	9.0	5.3	8.4
1993-1995	9.2	8.6	8.9	5.8	6.5
1994-1996	9.1	8.4	8.6	5.9	7.7
1995-1997	9.0	8.3	8.5	6.0	7.8
1996-1998	9.0	7.9	8.1	5.8	12.2
1997-1999	8.9	7.7	7.9	5.5	13.5
1998-2000	8.7	7.4	7.6	5.4	14.9
1999-2001	8.5	7.2	7.3	5.3	15.3

Source: Statistical Report (different volumes), *Sample Registration System (SRS)*, Registrar General, India.

The age-specific mortality curve for Himachal Pradesh was the usual 'U'-shaped in 1981 and 1998, due to relatively higher mortality rates at young and old ages. Though, for nearly two decades, the mortality pattern by age remains broadly the same, significant changes seem to have taken place in the death of different segments of the population. For most of the age groups, a drop in mortality is reported by SRS between 1981 and 1999, irrespective of sex, with some exceptions (Table 5.6). Mortality rate at the early age (0-4 years) of life has strikingly plummeted down for males in urban and rural areas, unlike that for female children in the same age group, for whom mortality conditions have improved more slowly. This change between 1981 and 1999 in the state has significant policy and programme implications. In the reproductive age group (15-44 years) too, where the risks of child-bearing decisively enhance female exposure to death, the gains have been recorded in Himachal Pradesh, particularly in rural areas. The NFHS findings also broadly support the SRS pattern in Himachal Pradesh. Comparison of first (1992) and second round (1999) results indicates a halt to improvement in child mortality, and decline in mortality among women in the reproductive age group in the state.

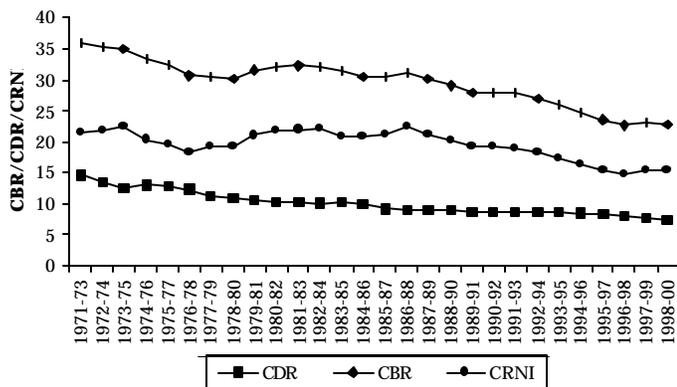
Notwithstanding annual fluctuations in age-specific death rates as reported by the SRS, it is apparent from Table 5.6 that at some specified ages, the sex of the individual is one of the important indicators of exposure to death. While female mortality-disadvantage is likely during childhood (>5 years), male vulnerability begins to mount from the age of 35 onwards.

*Infant, Child and Under-five Mortality*

Infant mortality is a significant indicator of human development as it indicates whether development has really trickled down. In view of the fact that children below five years typically have higher probability of death in Indian circumstances, infant and childhood mortality-reduction goals have continued to be a national priority since the First Five Year Plan (Planning Commission, 1952). The Tenth Five Year Plan is also committed to strategies to ensure better survival of children and bridging gender differences in early age mortality (Planning Commission 2003). The *Millennium Development Goals (1990-2015)* also emphasises the urgency of reducing the under-five mortality rate by two-thirds. The *National Population Policy 2000 (NPP 2000)* and the *National Health Policy 2002 (NHP 2002)* also address the issues of child health and survival and have set the IMR reduction goal of 30 per 1000 live births by 2010.

FIGURE 5.3

**Demographic Transition in Himachal Pradesh (1971-1973 to 1998-2000)**



Source: Statistical Reports (different volumes), *Sample Registration System (SRS)*, Registrar General, India.

TABLE 5.6  
Age-specific Death Rates (ASDR) by Sex, Himachal Pradesh (1981 and 1999)

Age (in completed years)	1981						1999					
	Male			Female			Male			Female		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
0-4	21.6	15.9	21.4	17.5	11.3	17.2	13.7	8.0	13.4	12.9	7.7	12.6
5-9	0.8	1.2	0.9	0.4	0.0	0.4	0.7	0.0	0.7	1.3	1.5	1.4
10-14	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6	0.3	0.0	0.3
15-19	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	0.2	0.8	0.7	0.8
20-24	0.0	3.3	0.3	4.8	2.2	4.7	0.9	1.5	0.9	1.0	0.0	1.0
25-29	1.0	0.0	0.9	5.0	0.0	4.6	3.3	0.7	3.0	2.0	0.7	1.9
30-34	7.3	0.9	6.6	11.0	0.0	10.3	3.0	0.0	2.7	1.0	1.7	1.1
35-39	9.1	0.0	8.3	7.2	2.6	6.9	4.5	1.7	4.2	1.4	1.0	1.4
40-44	8.2	0.6	7.5	7.5	3.4	7.3	2.4	2.8	2.5	1.8	3.1	1.9
45-49	30.2	4.5	28.2	3.1	3.6	3.2	10.7	4.6	10.0	6.1	1.5	5.8
50-54	0.0	9.6	0.8	3.1	0.0	2.9	8.2	10.0	8.4	7.2	7.4	7.2
55-59	27.1	22.6	26.8	34.8	11.7	33.6	22.6	13.5	21.7	12.6	8.9	12.3
60-64	18.0	41.1	19.1	5.6	24.1	6.5	19.2	20.6	19.3	24.0	22.4	23.9
65-69	83.2	27.6	80.2	66.3	11.0	62.8	23.8	52.1	25.3	24.6	30.9	25.0
70+*	200.2	70.0	194.4	64.3	65.8	64.4	90.4	133.2	91.2	82.6	80.3	82.8
All	14.7	5.8	14.1	8.3	4.2	8.1	8.5	5.6	8.2	6.6	4.8	6.5

Source: Statistical Reports (1981 and 1999), Sample Registration System (SRS), Registrar General, India.

Note: \* Indicates that the rate is estimated on the basis of rates for 70-74, 75-79, 80-84, and 85 plus age groups.

The situation in Himachal Pradesh, as regards the infant, child and under-five ( $U_5$ ) mortality, may compare favourably with the national scene, but the overall economic prosperity and social development of the state is not reflected in its levels of infant and child survival (Table 5.7). In spite of the lower incidence of poverty, greater infrastructure facility in terms of irrigation, road density and market density, electrification of villages, types of communication, educational centres, medical centres and provision of drinking water (NIRD 1999), lower share of casual labourers to all workers in rural areas (NIRD 1999), rapid rise in agricultural wages for male workers (NIRD 1999), use of banking services at the household level, attainment of better living standards and access to basic amenities in terms of housing, electricity, fuel for cooking, mobility, communication (*Census of India 2001*), higher female literacy, increasing private participation in health care services and women's exposure to mass media (NFHS 2002), mortality has continued to be high for infants and children in Himachal Pradesh. If development means elimination of preventable deaths for human welfare, then relatively higher mortality trends for children below five years of age should cause rethinking on the nature of development in Himachal Pradesh. Since 71 per cent of the total population in the state is dependent on subsistence agriculture, which contributes only 22 per cent to the net state domestic

product (Directorate of Economics and Statistics), the living conditions of the population cannot be improved unless agriculture is given serious attention for improvement in terms of productivity or creation of alternate livelihood options.

Recent estimates of IMR vary in Himachal Pradesh; NFHS measures infant mortality at 34 per 1000 live births during 1994-98 while the SRS mortality rate is 54 per 1000 births in 2001. Higher vulnerability of infants is visible from the data that the share of infant deaths in total deaths was 18 per cent in Himachal Pradesh, as against 4 per cent in Kerala (SRS 1999). For a state known to have a good record in the provision of social infrastructure and overall index of human development, such a level of loss of life in the first year of birth is intriguing. Himachal Pradesh's record in bringing down child deaths is striking, and as in other states, IMR has declined here by little more than two-fifths since the early seventies, due to spread of health care infrastructure and services, rise in literacy and overall improvement in living standards of families. Yet, there have been periods when achievements in controlling infant deaths have been patchy, as witnessed in 1974-78, 1983-88, and 1995-99. In tune with rest of India, mortality levels among infants did not show signs of real decline and stagnated in Himachal Pradesh in the nineties, as indicated by the time-trend (Table 5.8, Figure 5.4). Reasons for this

**TABLE 5.7**  
**Infant Mortality Rate (IMR) by Selected Background Characteristics in Selected States, India**

State	IMR <sup>1</sup> (2001)	Percentage of Births in Medical Institutions <sup>2</sup> (1998-99)	Percentage of Population Poor <sup>3</sup> (2000)	Percentage of Females Literate <sup>4</sup> (2001)	Percentage of Population Living in Urban Areas <sup>5</sup> (2001)	Percentage of Females Participating in Workforce <sup>6</sup> (2001)	Percentage of Households Using Electricity for Lighting <sup>7</sup> (2001)	Annual Rate of Growth of GDP in per cent <sup>8</sup> (1991-92 to 1997-98)
A.P.	66	49.8	15.8	51.2	27.1	34.9	67.2	5.0
Assam	74	17.6	36.1	56.0	12.7	20.8	24.9	—
Bihar	62	14.6	42.6	33.6	10.5	18.8	10.3	2.7
Gujarat	60	46.3	14.1	58.6	37.4	28.0	80.4	9.6
Haryana	66	22.4	8.7	56.3	29.0	27.3	82.9	5.0
<b>H.P.</b>	<b>54</b>	<b>28.9</b>	<b>7.6</b>	<b>68.1</b>	<b>9.8</b>	<b>43.7</b>	<b>94.8</b>	<b>6.3<sup>s</sup></b>
J&K	48	35.6	3.5	41.8	24.9	22.0	80.6	—
Karnataka	58	51.1	20.0	57.5	34.0	31.9	78.5	5.3
Kerala	11	93.0	12.7	87.9	26.0	15.3	70.2	5.8
M.P.	86	20.1	37.4	50.3	26.7	33.1	70.2	6.2
Maharashtra	45	52.6	25.0	67.5	42.4	32.6	77.5	8.0
Orissa	91	22.6	47.2	51.0	15.0	24.6	26.9	3.3
Punjab	52	37.5	6.2	63.6	34.0	18.7	91.9	4.7
Rajasthan	80	21.5	15.3	44.3	23.4	33.5	54.7	6.5
Tamil Nadu	49	79.3	21.1	64.6	43.9	31.3	78.2	6.2
U.P.	83	15.5	31.2	43.0	20.8	16.3	31.9	3.6
W.B.	51	40.1	27.0	60.2	28.0	18.1	37.5	6.9
<b>INDIA</b>	<b>66</b>	<b>33.6</b>	<b>26.1</b>	<b>54.2</b>	<b>27.8</b>	<b>25.7</b>	<b>55.8</b>	<b>6.9</b>

Source: 1. SRS Bulletin, Registrar General, India, April 2003.

2. National Family Health Survey 2 (1998-99), India.

3. Poverty Estimates for 1999-2000, Planning Commission, India.

4. 5. & 6. Provisional Population Totals, Papers 1, 2 and 3, Census of India 2001, Himachal Pradesh.

7. Series 1, Tables on Houses, Household Amenities and Assets, Census of India 2001, Himachal Pradesh.

8. Ahluwalia (2000).

9. Annual Plan (2001-2002), Planning Department, Government of Himachal Pradesh.

Note: 1. The estimates of poverty (percentage of population below poverty line) are based on a 30-day recall period and the states-specific poverty lines of 1999-2000.

2. '-' Indicates data not available.

3. For Himachal Pradesh, the annual growth rate of GDP is based on the period 1992-97.

merit some investigation, in the context of the link between overall economic growth in Himachal Pradesh and living standards of households (Table 5.7).

The underbelly of infant mortality in many Indian states has been the neonatal deaths. In Himachal Pradesh, these deaths constitute a whopping proportion of total infant deaths, accounting for as high as 93 per cent in 1999 (SRS). Unless neonatal deaths are significantly brought down, the scope for reducing infant mortality in the state is extremely limited. Reducing neonatal deaths is extremely complicated, as it would presuppose wider changes in maternal well-being and creation of sophisticated infrastructure in general, as well as in the existing hospitals to handle neonates for infections. Data show that infants have greater probability of death in rural areas than in urban locations; share of infant deaths to total deaths being much higher in villages (17.9%) than in towns and cities (11.9%) in the state.

Hence, for larger success in infant mortality reduction in Himachal Pradesh, there is a need to accord greater priority to rural areas, where nine-tenths of the total population reside. The major states (Kerala, Maharashtra, Tamil Nadu and West Bengal), with mortality among infants before first birthday lower than in Himachal Pradesh, are those, which have been able to reduce infant mortality substantially by focusing on rural areas consistently. The fact that rural areas in Himachal Pradesh require critical attention in this regard is clear from the latest early-life mortality statistics (SRS 1999). Neonatal and post-neonatal infant mortality rates are shown as 39 per cent and 12 per cent higher respectively in villages than in cities and towns. Lack of rural bias is one of the reasons for Himachal Pradesh having a much slower decline in mortality during one and half decades of the last century, as indicated by the percentage change in the IMR. Any innovative programme-formulation and

management must recognise this and factor-in this rural-urban dichotomy.

TABLE 5.8

**Infant Mortality, India and Himachal Pradesh  
(1971-73 to 1999-2001)**

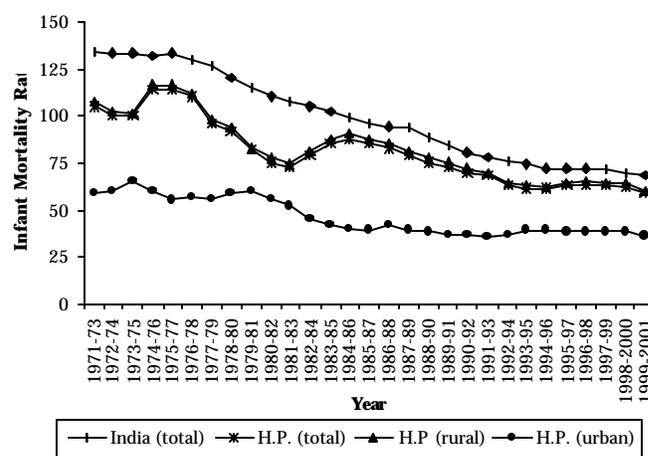
Year	Infant Mortality Rate			
	India Total	Himachal Pradesh		
		Total	Rural	Urban
1971-1973	134	105	107	59
1972-1974	133	100	102	60
1973-1975	133	100	101	65
1974-1976	132	114	116	60
1975-1977	133	114	116	55
1976-1978	129	110	112	57
1977-1979	126	96	98	56
1978-1980	120	92	93	59
1979-1981	115	82	83	60
1980-1982	110	75	77	56
1981-1983	107	73	74	52
1982-1984	105	79	81	45
1983-1985	102	85	87	42
1984-1986	99	87	90	40
1985-1987	96	85	87	39
1986-1988	94	83	85	42
1987-1989	93	79	81	39
1988-1990	88	75	77	38
1989-1991	84	73	75	37
1990-1992	80	70	72	37
1991-1993	78	68	70	35
1992-1994	76	63	64	37
1993-1995	74	61	63	39
1994-1996	72	61	62	39
1995-1997	72	63	64	38
1996-1998	72	63	65	38
1997-1999	71	63	64	38
1998-2000	70	62	64	38
1999-2001	68	59	60	36

Source: Statistical Report (different volumes), Sample Registration System (SRS), Registrar General, India.

Mortality, at all stages of childhood, has declined considerably in most states including Himachal Pradesh since the early eighties (Table 5.9). In India, the slowest decline in child mortality was recorded in Himachal between the early eighties and nineties. Kerala, Tamil Nadu, and Gujarat have done well in all fronts of fighting early age mortality during these decades and have been able to lessen substantially and uniformly components of such mortality, namely, neonatal, post-neonatal, infant, and child deaths. This needs to be emulated in Himachal Pradesh, which records a substantial loss of lives during childhood (0-4 years); 19 per cent of total deaths occur in childhood in Himachal Pradesh as against five per cent in Kerala, 15 per cent in Tamil Nadu and 17 per cent in Maharashtra (SRS 1999). This indicates that with the right kind of

FIGURE 5.4

**Infant Mortality, India and Himachal Pradesh  
(1971-73 to 1999-2001)**



intervention, the scope to reduce deaths during childhood is enormous in Himachal Pradesh. The deaths before fifth birthday ( $U_5$ ) in the state (42 per 1000 live births) is second lowest in the country after Kerala (19), yet, far away from what can be done in Indian situation, according to the recent NFHS.

#### Gender Bias in Infant and Child Mortality

Adjusting for data discrepancies, infant and childhood mortality in Himachal Pradesh can be associated with sex-differentials. SRS occasionally establish that relatively higher female early-age mortality in Himachal Pradesh is declining over time (Figure 5.5). In view of considerable gains to both sexes from the onset of mortality decline during last three decades, such male-female divergence, as observed during late eighties, is possible when female children benefit either equally or less in relation to their male counterparts. In spite of improvements in literacy, expansions in outreach of health care services and advances in overall standards of living in recent times, the sex composition of infant mortality trends in Himachal Pradesh suggest that vulnerability of the girl child is not a long-run issue. More recent data from NFHS between 1992-93 and 1998-99 indicate decline in the gender disparity in mortality that existed in Himachal Pradesh at every stage of childhood, particularly before the fifth birthday (Table 5.10).

#### Stillbirths

The trend in the rate of stillbirths is a good indicator of foetal health in particular and maternal as well as child health in general. It also reflects complications during pregnancy caused by a variety of

TABLE 5.9  
Mortality at Different Stages of Childhood, India and Major States

State	Neonatal Mortality Rate			Post-neonatal Mortality Rate			Infant Mortality Rate			Child Mortality		
	1981	1999	Per cent decline during 1981-99	1981	1999	Per cent decline during 1981-99	1981	2000	Per cent decline during 1981-2000	1981	1999	Per cent decline during 1981-99
A.P.	60	46	23.3	26	20	23.1	86	65	24.4	30	17	43.3
Assam	67	53	20.9	39	23	41.0	106	75	29.2	40	24	40.0
Bihar	74	41	44.6	44	22	50.0	118	62	47.5	43	21	51.2
Gujarat	75	43	42.7	41	20	51.2	116	62	46.6	41	20	51.2
Haryana	58	39	32.8	44	28	36.4	101	67	33.7	37	20	45.9
<b>H.P.</b>	<b>15</b>	<b>50</b>	<b>-233.3</b>	<b>57</b>	<b>4</b>	<b>93.0</b>	<b>71</b>	<b>60</b>	<b>15.5</b>	<b>19</b>	<b>13</b>	<b>31.6</b>
J&K	44	—	—	28	—	—	72	50	30.6	26	—	—
Karnataka	49	43	12.2	21	15	28.6	69	57	17.4	24	15	37.5
Kerala	26	11	57.7	12	3	75.0	37	14	62.2	12	4	66.7
M.P.	81	61	24.7	62	28	54.8	142	87	38.0	61	30	50.8
Maharashtra	54	29	46.3	25	19	24.0	79	48	39.2	26	12	53.8
Orissa	80	61	23.8	55	36	34.5	135	95	28.9	42	27	35.7
Punjab	49	34	30.6	32	19	40.6	81	52	35.8	26	15	42.3
Rajasthan	60	50	16.7	49	31	36.7	108	79	26.9	50	25	50.0
Tamil Nadu	63	36	42.9	29	17	41.4	91	51	44.0	35	13	62.9
U.P.	96	52	45.8	54	32	40.7	150	83	44.7	60	28	53.3
West Bengal	64	31	51.6	27	21	22.2	91	51	44.0	34	14	58.8
<b>INDIA</b>	<b>70</b>	<b>45</b>	<b>35.7</b>	<b>41</b>	<b>24</b>	<b>41.5</b>	<b>110</b>	<b>68</b>	<b>38.2</b>	<b>41</b>	<b>20</b>	<b>51.2</b>

Source: Statistical Report (1981 and 1999) and SRS Bulletin, Vol. 36 (1), 2002, *Sample Registration System (SRS)*, Registrar General, India.

TABLE 5.10  
Neonatal, Post-neonatal, Infant, Child and Under-five Mortality Rate by Sex, India and Himachal Pradesh (1992-93 to 1998-99)

	Type of Mortality									
	Neonatal Mortality		Post Neonatal Mortality		Infant Mortality		Child Mortality		Under-five Mortality	
	1992-93	1998-99	1992-93	1998-99	1992-93	1998-99	1992-93	1998-99	1992-93	1998-99
<b>Himachal Pradesh</b>										
Male	41.6	27.9	25.6	16.9	67.2	44.8	17.6	9.0	83.6	53.4
Female	34.4	21.4	28.5	12.4	62.9	33.6	25.3	9.3	86.6	42.8
Female disadvantage(f/m)	0.8	0.8	1.1	0.7	0.9	0.8	1.4	1.0	1.0	0.8
<b>India</b>										
Male	57.0	50.7	31.7	24.2	88.6	74.8	29.4	24.9	115.4	97.9
Female	48.1	44.6	35.8	26.6	83.9	71.1	42.0	36.7	122.4	105.2
Female disadvantage (f/m)	0.8	0.9	1.1	1.1	0.9	1.0	1.4	1.5	1.1	1.1

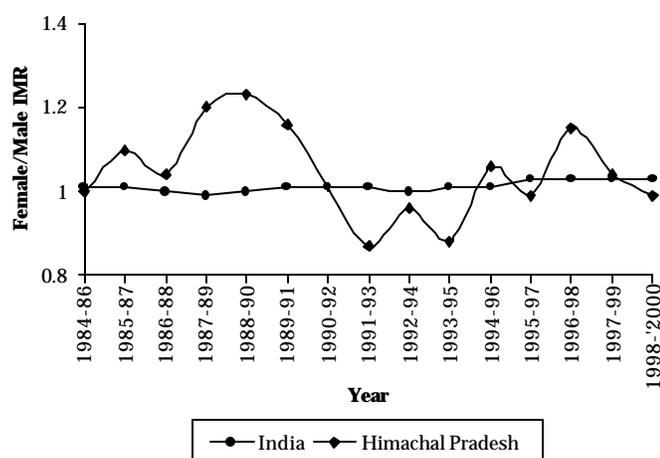
Source: National Family Health Survey (1992-93 and 1998-99), India.

factors, such as lack of proper nutrition, low level of maternal care, infections, delivery by unqualified personnel, and delayed referral, which aggravate the problem. Stillbirth happens when a growing foetus suddenly dies either due to nutritional deprivation or owing to some defect with the placenta or the umbilical cord that disrupts oxygen supply to the child. Stillbirths may also happen if the uterus starts contracting more than required but cannot push the foetus out due to its size or abnormal position, leading to non-delivery. Trauma during pregnancy or delay in reaching the health centre can also cause stillbirth.

The stillborn figures inherently reflect bias and are not stable, as seen in Table 5.11. Yet, high rates of stillborns indicate poor quality of obstetric care and health in Himachal Pradesh. Data on pregnancy-outcome indicate greater incidence of stillbirths in the state (2.6%) as compared to the national average (2.0%). Stillbirths are unfortunate, and are regrettably overlooked by the policymakers and programme implementers in the din and bustle of infant mortality. The surest ways to deal with the problem of stillbirths would demand covering smaller and remote localities with facility of antenatal care, safe delivery, faster

FIGURE 5.5

**Female Disadvantage in Infant Mortality, India and Himachal Pradesh (1984-86 to 1998-2000)**



Source: Statistical Reports (different volumes), *Sample Registration System*, Registrar General, India.

transport, as well as referral to emergency obstetric units, provision of blood transfusion services, promotion of iodised salt consumption, better community awareness, etc.

TABLE 5.11

**Incidence of Stillbirths, India and Himachal Pradesh (1985-99)**

Year	India			Himachal Pradesh		
	Rural	Urban	Total	Rural	Urban	Total
1985	10.8	8.9	10.4	6.1	2.5	5.9
1989	13.1	11.2	12.7	10.0	5.2	10.6
1991	10.9	9.6	10.7	14.1	3.6	13.7
1994	7.3	15.2	8.9	6.2	11.4	6.5
1995	9.3	8.8	9.2	6.0	10.0	6.0
1996	9.0	9.0	9.0	6.0	8.0	7.0
1997	8.6	9.0	8.7	6.0	9.0	6.0
1998	9.0	8.0	9.0	12.0	7.0	12.0
1999	11.0	8.0	10.0	14.0	18.0	14.0

Source: Statistical Report (different volumes), *Sample Registration System (SRS)*, Registrar General, India.

### *Causes of Death in Infancy and Childhood*

Though reliable data on direct causes of death are vital for its assessment in early childhood, such information is rarely available in a format useful for initiating health-assessment and intervention programmes. The problem is much more compounded for smaller states, for which the *Survey of Causes of Death in Rural Areas* (Registrar General, India 1998) does not identify the top killer diseases during infancy,

childhood, and reproductive life of females, unlike the major states in the country. This is a major constraint in health planning and performance.

Investigation of circumstances responsible for higher levels of infant and child mortality in general, and excess female mortality in particular, leads to a set of factors that are deeply embedded in the socio-economic and living conditions of the households. For instance, a study by Pandey *et al.* (1998) on Himachal Pradesh has indicated that mother's literacy, exposure to mass media, access to flush or pit toilet, ownership of household goods, and standard of living and pattern of differential care based on the sex of the child in households, affect the chances of survival of the children below five years of age at various stages. When controlled for the effects of other variables, the rural-urban difference in child mortality disappears. Similarly, caste- and tribe-status intrinsically enhances mortality risks significantly. Overall poverty in the family is also identified as a significant predictor of child mortality in the state. This often gets reflected in the maternal work-status (Krishnaji 2002). Demographic determinants, such as order of birth, sex of the child, mother's age at birth, length of the previous birth interval, etc., are also found to be crucial in the prevalence of neonatal, post-neonatal, infant, child and under-five mortality levels in the state (NFHS 1995 and NFHS 2002). In Himachal Pradesh, during the neonatal period, mortality is high for first order births and in the post-neonatal period for second and higher order births, indicating the relative importance of biological and behavioural factors. Longer birth interval (duration of previous birth interval being at least 24 months and above) also significantly reduces mortality during neonatal, post-neonatal period and infancy by 36 per cent, 49 per cent and 43 per cent respectively. Likewise, the death of an older sibling at a comparatively young age also raises the post-neonatal mortality by 88 per cent. Antenatal visits also significantly reduce the neo-natal mortality (by 43%) in Himachal Pradesh, as seen from the NFHS analysis (Pandey *et al.* 1998). Research is required to ascertain the role of a dominant backward population, gender preference, access to and utilisation of health care services particularly during natal and post-natal periods, slowing down of economic growth and the impact of the structural adjustment programme, on recent trends in infant and childhood mortality in the state.

Further reduction in mortality, due to the above causes, will certainly depend not only on the state of public health programmes in Himachal Pradesh, but also

on overall levels of economic and social development in terms of health, hygiene, environmental sanitation, levels of living, financial capacity to pay for health care and socio-cultural barriers in accessing it. The enormity of the tasks ahead, in relation to infant mortality, can well be visualised from the fact that Himachal Pradesh has to go a long way to achieve the national goal of bringing down the IMR to 45 by 2007, 30 by 2010, and 28 by 2012, as laid down in the *National Population Policy 2000* (NPP 2000) and the Tenth Five Year Plan (2002-2007). This appears to be difficult to achieve as, for some time in the recent past, the infant mortality level has been stagnating in the state, with the rates hovering around 60 per 1000 and not falling in tandem with economic and social development, as normally expected.

Ways to fight infant mortality would include removal of gender bias, strengthening of the Child Survival and Safe Motherhood (CSSM) Programmes under the RCH umbrella, introduction of nutritional programmes especially for anaemic mothers, proper immunisation, baby-friendly infant-feeding practices and nourishment for the newborn, screening mothers-to-be for antenatal check-up and nutritional intake, reduction in the share of non-institutional births, adequate provision for emergency obstetrics services, strengthening the sub-centres, subsidiary health centres and primary health centres, and making women doctors widely available for female clients, particularly in remote rural areas, and wider community involvement.

### *Maternal Mortality*

Childbearing being central to womanhood, the state of maternal mortality shows how effectively women benefit from development in education, health, nutrition and medical care. Safe motherhood is high on the national agenda and maternal deaths are viewed seriously. The successive plans in India, starting from the First Five Year Plan (1951-56) to the Tenth Five Year Plan (2002-2007) recognise maternal mortality as an important indicator of socio-economic development, women's empowerment and access to basic health care in the society (Planning Commission 1952, 2001). The *National Population Policy 2000* (NPP 2000) and the *National Health Policy 2002* (NHP 2002) also reinforce this concern to policy priorities and aim to reduce the existing levels of maternal mortality to 100 maternal deaths per 1,00,000 live births by the year 2010. In India, despite policy statements, health planning and medical advancement, more than 1,00,000 women die every year from causes connected with pregnancy, childbirth and related complications (NFHS 2000).

These maternal deaths have strong implications for infant survival, family ties and generational well-being, as they not only devastate the families concerned but also create situations unfavourable to social and economic harmony between generations.

Even if maternal deaths are substantial in India, reliable data on these are yet to be available for the individual states. The SRS figures (1998) on maternal mortality are far from reality and elude the smaller states including Himachal Pradesh, as do the available indirect estimates. The available data put the figures in Himachal Pradesh at a higher level, with 408 per 1,00,000 live births in 1992 (Himachal Health Vision 2020). Lack of studies on different dimensions of maternal mortality, particularly in Himachal Pradesh, hamper efforts to address the problem. However, existing evidence suggests that the state is still far from the National Socio-Demographic Goal for 2010, which aims to bring the MMR below 100 deaths per 1,00,000 live births, as enunciated in the *National Population Policy 2000* (NPP 2000).

Variations in maternal mortality can be directly related to rural and urban residence, availability and use of health infrastructure for antenatal, natal and post-natal requirement, conditions of hygiene and birth-assistance for home deliveries, health awareness and overall levels of living, according to some hospital- and community-based studies. Direct and indirect causes of maternal deaths have to be widely assessed in Himachal Pradesh, for maternal death reduction programmes. While the broad direct causes usually consist of haemorrhage, oedema, proteinuria and hypertensive disorders, obstructed labour due to malposition and malpresentation of foetus, and complications predominantly related to puerperium, the indirect causes range from tuberculosis, viral hepatitis, malaria and anaemia.

As one of the priority areas, the WHO has recommended measures for promoting policy action, society and community intervention along with health sector activation, to reduce maternal mortality. In the context of Himachal Pradesh, this would mean increasing access of women to health-care centres particularly during odd hours, eliminating unsafe practices during delivery and sensitising the community on its importance, regularly training and equipping female health workers including *dais*, and making the community respond effectively to the needs of socially and economically backward pregnant women. Revitalising primary and subsidiary health centres and the designation of certain health centres as nodal units depending on their respective infrastructure, habitation,

connectivity and availability of health staff, can be of immense help.

Recent initiative of the Government of India in declaring 11 April as *Rashtriya Janani Suraksha Diwas* and launching a new beneficiary-friendly scheme for poor women to encourage deliveries in hospitals and health centres and supporting nutritional food intake of pregnant women is regarded as a step forward. Since most of the maternal deaths are preventable, the state government can achieve good results by implementing schemes which ensure at least three antenatal check-ups at a health facility, one extra meal a day, iron and folic acid supplementation for 100 days, delivery in a health facility, recognition of danger signs of complicated pregnancies and rush them to the nearest health centre, and finally three check-ups after the delivery.

In addition to putting in place an effective demographic surveillance system, which includes registration and monitoring of pregnancies by local paramedics, measures to meet emergency situations with regard to childbirth and pregnancy complications can also be helpful. One of the various ways of improving assessment of maternal mortality is to upgrade the data on such deaths through advances in vital registration system, reporting of the exact cause of death, and inclusion of some basic background characteristics.

#### *Prospects for Further Decline*

Prospects for further drop in mortality is high in Himachal Pradesh. Reducing under-five mortality, which has been inordinately high at different stages, can ensure a decline in overall mortality; focus on the survival of female children can also tremendously contribute to reduction in overall mortality rates.

Similarly, maternal mortality is another area where substantial reductions can be attempted to create a dent in the general mortality level. Tracking down and supporting groups, who, in a given situation, are more vulnerable to infant, child and maternal mortality, can yield direct results. Rural crude death rate in Himachal Pradesh being close to the rural CDR in Kerala, the state with the lowest mortality in India, the best way will be to concentrate on infants and children in rural areas so as to get quick results. As one among select states in India poised for demographic ageing, rise in the proportion of the elderly in Himachal Pradesh is likely to inflate the total mortality level as, with rising age (from 60 years onwards), the death-rate starts rising progressively. Moreover, development-linked epidemiological transition, lifestyles and medical and non-medical intervention programmes are likely to have a

decisive impact on future mortality regimes. Some basic reflections on the causes of death are essential in this context. Unfortunately, no reliable and disaggregated statistics are available about these on a wider scale.

The timing of infant death has also far-reaching importance for framing measures that enhance the chances of survival of the newborns. Since biological factors are largely decisive in determining chances of survival in the neonatal period, and environmental and behavioural factors in the post-neonatal period, interventions must recognise this classification. Since infant deaths are out of proportion according to the 'two-thirds rule', deaths occurring in first 24 hours of life, then in the first week of life, and subsequently in the first month of life, need to be tracked down for remedial measures. As deaths in the first four weeks of life are determined by sets of proximate determinants, namely maternal factors, environmental contamination, nutritional deficiency, injury, and personal illness control (James *et al.* 2000), reduction in infant mortality by bringing down neonatal deaths will significantly depend on substantial progress in containing these risk factors. For instance, nutritionists argue that removal of iodine deficiency during pregnancy, which retards the growth and development of the foetus, will result in a substantial reduction in stillbirths and neonatal mortality (Dodd and Madan 1993). The nutritional rehabilitation of expectant women also reduces the chances of birth of low birth-weight babies, who are more susceptible to death in neonatal period. But, the scope for nutritional improvement depends very much on the extent to which the economic standards of living of the families are upgraded and opportunities for livelihood are provided. Since premature births, another source of high neonatal death, are difficult to avoid because of inability to control infections and birth asphyxia without proper and equipped neonatal centres in the existing hospitals, the best way in the short run will be to stick to nutritional programmes. For this, Himachal Pradesh has to place nutrition high on the development agenda, as already done in Tamil Nadu in the south.

#### **Contraceptive Use**

The First Five Year Plan in India laid the foundation of a state-sponsored family planning programme to reduce the growth of population, so as to stabilize it at a level consistent with the requirements of the national economy (Planning Commission 1952). Since then, successive Five Year Plans have been providing funding assistance to upgrade the infrastructures and to

improve quality, coverage and efficiency of family welfare programmes all over the country. The Tenth Five Year Plan, like the previous ones, also makes an unequivocal commitment to free essential family welfare services. It also highlights the need to make a dent on the fertility profile of the country, through the removal of unmet needs of contraception (Planning Commission 2003). Notwithstanding policy rigidities, socio-cultural barriers, programme deficiencies, etc., contraception today is at the core of demographic changes that are widely sought, both officially and privately.

#### Levels and Trends in Use

In the past more than 55 years, the use of modern contraceptives in Himachal Pradesh has reached a significant proportion from virtually nil at the time of independence. It is a leader in northwestern India in family planning practice. The state is widely recognised for its good performance in family planning programme, like Maharashtra and Gujarat in the west, Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu in the

south, besides Punjab in its neighbourhood. Since the inception of the programme, the contraceptive prevalence rate (CPR) has consistently remained high in Himachal Pradesh, as compared to the national average, notwithstanding the controversies that had dogged the programme during the 'national emergency' and due to institution of incentives. Apart from couples' awareness about method-use and availability, the phenomenal growth in CPR can be attributed to vigorous programme implementation strategies, active involvement of the government health sector, centring on 'target' fixation and achievement mainly tagged to incentives and disincentives to programme-staff and clients. Both official service statistics and independent contraceptive prevalence surveys have consistently established the edge of Himachal Pradesh over others in making contraception reach the eligible population widely (Table 5.12, Figure 5.6). In addition to a real difference in use of methods, the differences between official and non-official figures can also be attributed to methodological differences in the estimation.

TABLE 5.12  
Current Contraceptive Prevalence Rate (CPR) due to All Modern Methods, India and Himachal Pradesh (1973-99)

Year	All Methods <sup>1</sup>		NFHS <sup>2</sup>		Levels and Trends in Method Composition <sup>1</sup>							
	India	H.P.	India	H.P.	Sterilisation		IUD		Condom		Oral Pill	
					India	H.P.	India	H.P.	India	H.P.	India	H.P.
1973	15.0	8.2	12.2	—	11.3	5.9	1.4	1.8	2.3*	0.5	—	—
1975	16.3	9.5	—	—	12.4	7.6	1.4	1.4	2.5*	0.5	—	—
1976	18.9	13.5	—	—	14.1	9.5	1.5	1.5	3.4*	2.4*	—	—
1977	26.1	32.8	—	—	21.1	24.9	1.6	2.3	3.5*	5.6*	—	—
1978	24.4	27.1	—	—	20.4	22.2	0.9	1.4	3.0*	3.5*	—	—
1979	24.4	24.8	—	—	20.2	21.8	1.0	1.4	3.3*	1.6*	—	—
1980	23.9	24.5	—	—	20.2	21.7	1.1	1.6	2.7*	1.2*	—	—
1981	24.3	26.1	—	—	20.0	22.1	1.1	1.7	3.2*	2.2*	—	—
1982	25.6	27.0	—	—	20.7	23.3	1.2	1.9	3.8*	1.8*	—	—
1983	28.4	29.6	—	—	22.0	25.5	1.4	2.1	4.9*	2.0*	—	—
1984	32.4	32.4	—	—	23.7	27.7	2.3	2.6	6.2*	2.1*	—	—
1985	35.8	36.1	—	—	25.0	29.1	3.0	3.6	7.8*	3.4*	—	—
1986	38.7	42.6	—	—	26.5	32.0	3.9	5.0	8.3*	5.6*	—	—
1987	46.7	45.9	—	—	27.9	33.5	4.8	6.2	7.4	5.1	1.3	1.1
1988	44.2	47.5	39.9	—	28.9	34.5	5.5	6.9	8.3	5.2	1.5	0.9
1989	46.7	51.7	—	—	29.8	35.8	6.2	7.7	8.9	7.0	1.7	1.1
1990	48.6	54.6	—	—	30.1	36.8	6.6	8.4	10.0	8.2	1.9	1.2
1991	49.6	56.9	—	—	30.3	37.5	7.0	9.1	10.1	8.7	2.1	1.5
1992	48.6	58.8	36.3	54.4	30.3	38.6	6.6	10.0	9.4	8.4	2.2	1.7
1993	48.7	60.3	—	—	30.3	38.7	6.6	10.8	9.9	9.0	2.0	1.7
1994	51.3	61.5	—	—	30.3	39.6	7.2	10.7	11.2	9.1	2.7	2.2
1995	51.6	57.9	—	—	30.2	40.5	7.6	10.3	10.8	4.8	3.0	2.4
1996	52.2	62.1	—	—	30.2	40.7	8.2	10.7	10.7	8.2	3.2	2.5
1997	51.0	59.3	—	—	29.6	40.3	7.8	9.8	10.4	7.0	3.1	2.3
1998	50.8	53.8	—	—	29.3	36.9	7.6	8.6	10.1	6.1	3.8	2.2
1999	—	—	42.8	60.8	—	—	—	—	—	—	—	—

Source: 1. Ministry of Health and Family Welfare (MoHFW), Government of India, *Year Books* (different volumes).

2. *National Family Health Survey* (NFHS), India, 1992-93 and 1998-99.

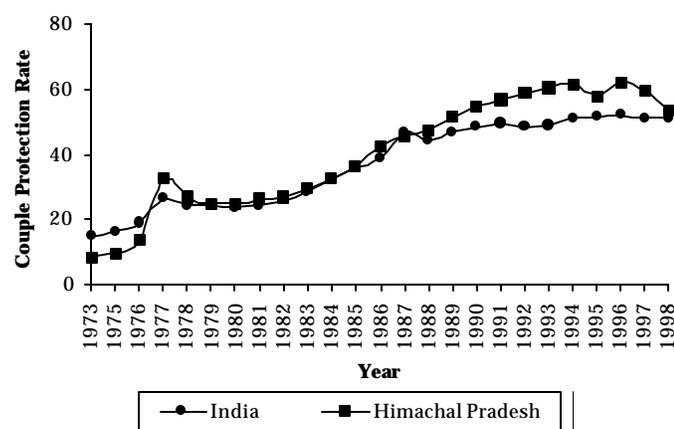
Note: 1. '\*' includes use of oral pills also

2. '—' Indicates data not available

3. Figures are in percentages

FIGURE 5.6

### Couple Protection Rate, India and Himachal Pradesh (1973-1998)



Source: Year Books (different issues) Ministry of Health and Family Welfare, Government of India.

### Age Pattern of Use

The age pattern of contraception in Himachal Pradesh (Figure 5.7) is interesting. According to NFHS, among the currently married women, in 1998-99, the use peaked in the ages 35-39 followed by 30-34 with 67 per cent and 69 per cent respectively using some modern method of family planning. The younger age couples (aged 20-24 years) report low use, the rate being 27 per cent. Contraception among younger women is more popular in urban than in rural areas. Official statistics on contraception in Himachal Pradesh show that the mean age at acceptance has risen by one year between 1986-87 and 1999-2000 for the acceptors of IUD, and declined by one year for the acceptors of tubectomy, and remained nearly stagnant for the wives of vasectomy acceptors. These are not healthy demographic signs. When linked to the age pattern of fertility, it is observed that women basically resort to contraception on a wider scale after their own contribution to fertility at ages 20-24 and 25-29. If contraception is to have a higher impact on fertility, then ways must be found to make it more popular among younger women, and make spacing methods, other than the IUD, more accessible during the time lag between marriage and acceptance of a terminal method (Table 5.13).

Son-preference influences family planning acceptance in Himachal Pradesh. Whether the couples will opt for contraception or not depends to a large extent not only on the total number of living children they have but also on the number of living son(s). According to NFHS, family planning is mostly accepted after two

TABLE 5.13

### Time Lag in Contraception, Himachal Pradesh (1999-2000)

Age/Time Lag (in years)	Type of Contraceptive Method		
	IUD	Vasectomy	Tubectomy
Mean age (of wife) at acceptance <sup>1</sup>	27.5	29.7	28.1
Female mean age at first marriage <sup>2</sup>	18.6	18.6	18.6
Time lag in contraception	8.9	11.1	9.5

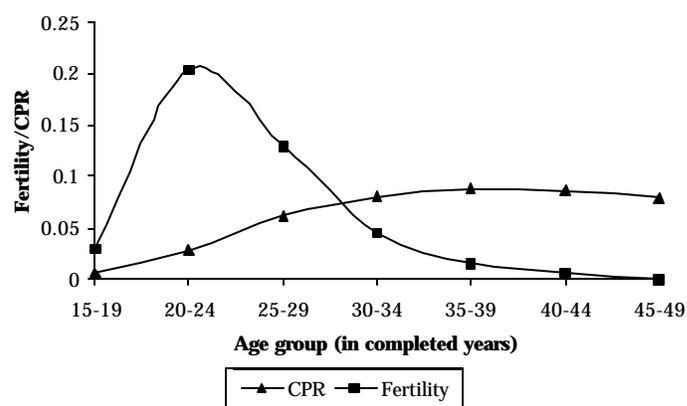
Source: 1. Directorate of Health and Family Welfare, Himachal Pradesh.

2. Multiple Indicator Survey (MICS), UNICEF 2000.

children; 23 per cent of couples currently use any modern method after one child as against 65 per cent after two children and 80 per cent after three children. Among one-child families, 27 per cent go for family planning just after having a son as against 18 per cent just after a daughter. Similarly, among two-child families, 80 per cent of currently married women resort to family planning after two sons as opposed to 31 per cent after two daughters. A strong correlation also exists between the sex composition of the surviving children and methods preference. Comparison between spacing and terminal methods shows that the acceptance of terminal methods is largely dependent on the needed number of male children in the family. Even such methods as condom and IUD, which do not give finality to termination of child-bearing, are used by couples after meeting the targets of family-composition and size in terms of the required number of sons. If the family planning programme in the state has to make further inroads and be sustainable, it must address the gender dimensions confronting it.

FIGURE 5.7

### Age-specific Fertility Rate and Age-specific Couple Protection Rate, Himachal Pradesh (1999)



Source: National Family Health Survey.

In Himachal Pradesh, the 'Two Child Norm' is strongly rooted in the fertility planning of the couples and determines the choice of method. The idea that contraceptives are only meant for use after the birth of at least one child is highly ingrained in the minds of the couples and needs to be changed. It also confirms that there exists vast scope in the state for expanding family planning practices among couples. At least, spacing methods, such as the IUD and condom, can be more vigorously promoted in the state, particularly among women with no child, one child and two children. If specific concerns relating to pills are dealt with properly, it could also be reasonably promoted among women.

#### *Prospects for Future*

The family planning programme in Himachal Pradesh like everywhere else has a dual responsibility. Besides making couples empowered in the process of childbearing through reproductive choices, the programme has also to help in the attainment of replacement level of fertility through universal access to quality contraceptives and prevention of unwanted pregnancies. This would presuppose creation and addition of proper infrastructure at the village level given the fact that 90 per cent of the population in the state resides in villages, that are generally scattered and remote. Upgradation of existing hospitals, PHCs and sub-centres, training of personnel and uninterrupted supply of contraceptives, tubal rings, laproscopes, vaccines and RCH drugs, etc., need to be undertaken widely. Active involvement of the non-governmental sector is essential and social marketing of contraceptives also needs to be extensively promoted.

At another level, family planning cannot be boosted unless child mortality is brought down and couples are reassured about the survival of their children. Ante-natal, natal and post-natal services have to be streamlined and home deliveries, already high, have to be drastically reduced. Better birth attendance and nursing care will promote, in the absence of target setting, provider-client relationship to the advantage of family planning. This is exclusively in the hands of government health workers. Covering the inter-district disparity in determinants of family planning acceptance will also deliver good result in future.

#### **Sex Ratios, Sex Preference, and Sex Selective Abortions**

The sex composition of the population is an important indicator of social development. In most populations, females exceed males numerically but, in

contrast the Indian sex-ratio (defined as number of females per 1,000 males) has been consistently low for a long time. In the northwestern region, namely Himachal Pradesh, Uttaranchal, Punjab, Chandigarh, Haryana, Delhi, Rajasthan, Gujarat and Maharashtra, low sex ratio continues to be a demographic enigma and cause for concern. In Himachal Pradesh, the recent census shows declining sex ratios for total as well as the child population (0-6 age group) unlike the earlier ones since 1901, which had been consistently indicating a rise in the sex-ratio for the total population, except for a break in 1941. During 1991-2001, while a moderate increase in the femininity of the total population, simultaneously with rising masculinity of the child population, was the situation in India, in Himachal Pradesh it was increasing masculinity for both the groups. In the northwest, the numerical shortfall of females is intense in Punjab and its neighbourhood, both in child (0-6 years) and non-child populations (seven years and above).

Himachal Pradesh is noticeable in the northwest for greater masculinity of the child population as compared to the national average (Table 5.14). Examination of sex-ratio trends indicates that throughout the twentieth century, Himachal Pradesh experienced a deficit of females and the problem of a sex-ratio imbalance is not a recent one. The concern is that instead of getting corrected with time, the situation is deteriorating, as evident in the 1980s and 1990s.

The dynamics of sex ratio are complex and broadly explained in terms of variations in sex composition of births, sex differences in mortality, sex discrepancies in enumeration and the sex pattern of net migration. Being proximate, these factors are responses to some ultimate social, economic, cultural and technological changes in the society. In the absence of more recent data on sex-specific coverage in the census, migration trends for both the sexes in the inter-censal period, and detailed age and sex composition of the population, it is difficult to attribute the part played by each of the above factors. However, the emerging pattern of sex-ratio imbalances in Himachal Pradesh can be comprehended to a large extent by concentrating on trends in the child sex ratio.

Masculinity in child sex-ratio has been observed in Himachal Pradesh since its statehood and male-female imbalance continuously sliding since 1971 from which year direct data are available on child sex composition. However, the situation seems to have worsened faster after 1981, with the femininity level in child population dropping to 897 females per 1,000 males for the state in

2001. Census-based sex ratio indicates substantial rise in the already masculine child population between 1981 and 2001 (Table 5.14). The origin of the current imbalance seems to have been in the late eighties and the early nineties with deficits culminating in 2001. This can be directly related to the emergence and popularity of sex-determination tests in North India in general, and Punjab and its adjoining areas in particular, which receive large and regular inflow from Himachal Pradesh in search of livelihood.

TABLE 5.14

**Changes in Sex Ratio, India and Himachal Pradesh (1971-2001)**

Year	India		Himachal Pradesh	
	All ages	Children (0-6)	All ages	Children (0-6)
1971	930	964	958	981
1981	934	962	973	971
1991	927	945	976	951
2001	933	927	970	897

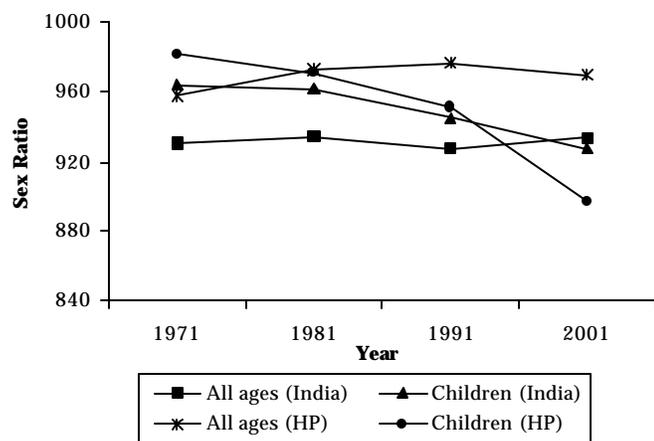
Source: 1. *Provisional Population Totals, Paper 1 of 2001, Census of India 2001, India and Himachal Pradesh.*

2. *Social and Cultural Tables, Census of India, Himachal Pradesh, 1971 and 1981.*

There is no evidence of large-scale selective migration in favour of male children in Himachal Pradesh, and the gender difference in enumeration is also not considered a significant explanation of child sex ratio imbalance here, like elsewhere (Visaria 1971, Miller 1981, Krishnaji

FIGURE 5.8

**Changing Sex Ratio, India and Himachal Pradesh**



Source: 1. *Provisional Population Totals, Paper 1 of 2001, Himachal Pradesh, Census of India 2001.*

2. *Provisional Population Totals, Paper 1 of 2001, India, Census of India 2001.*

3. *Socio-cultural Tables, Himachal Pradesh, Census of India 1971, 1981 and 1991.*

2001), even if the census-recorded sex ratios often under-report females (Natarajan 1972, Premi 1991), specifically in early age. This leaves the sex ratio at birth (SRB) and excess female childhood mortality as the two main factors influencing child sex ratio in the state, their relative contribution varying from one place to the other depending on the local situation. In addition to the sex ratio at birth, the other distortion in child sex ratio comes from excess female child mortality discussed earlier. Shortages of females, at birth and at early age, create numerical disparity in the childhood for each cohort, difficult to alter subsequently. Young-age children from both the sexes have gained in chances of survival in Himachal Pradesh, especially during past two decades. Improvements in mortality conditions have been able to wipe out, to a large extent, the excess female disadvantage that had existed in mortality for some time. Hence, higher female mortality in the young age as a significant determinant of sex ratio among children (0-6 years) in the state seems to be less than expected.

#### Sex Ratio at Birth

Data on sex ratio at birth, from more than one source, with all the shortcomings, indicate an overall tilt in favour of males that is rising faster in the recent period in Himachal Pradesh (Table 5.15). In Himachal, a study recorded a SRB of 105, 107 and 117 during 15 years period before 1984-98 (Retherford and Roy 2003). It concluded that SRB gets further distorted in the absence of any living sons, which provides strong indirect evidence of sex-selective abortions, after first births. Data on annual births, culled from different registration units, indicate state of affairs to be still more serious, as the male births exceeded the female births overwhelmingly in the state. Between 1996 and 2001, the number of male births per 100 female births, hovering mostly around 115, indicate a substantial surplus of male babies at birth. In spite of the reservations one may have on the quality of such registrations in a state that has 90 per cent of the population living in villages, which are small, scattered and remote, this is an indication of the extent of the problem. Based on these indications, there is need to reflect, in the first place, on as to why the sex ratio at birth is so much biased in favour of males in Himachal Pradesh, and what are the reasons for it being increasingly so in the recent past?

In Himachal Pradesh, the male advantage is more than 'normal' at the time of birth. This gives currency to the argument that a significant share of females are lost either at the time of conception or during

**TABLE 5.15**  
**Sex Ratio at Birth, India and Himachal Pradesh (1978-2001)**

State	Sample Registration System (SRS)		National Family Health Survey (NFHS)		Civil Registration System (CRS)					
	1981-90	1996-98	1978-92	1984-98	1996	1997	1998	1999	2000	2001
H.P.	—	—	107	108	114	116	118	115	117	117
India	110	111	106	108	—	—	—	—	—	—

Source: 1. *Sample Registration System (SRS)*, Registrar General, India.  
 2. *National Family Health Survey (NFHS) 1992-93*: India and different states.  
 2. *National Family Health Survey (NFHS 2) 1998-99*: India and different states.  
 3. *CRS*: Directorate of Health and Family Welfare, Government of Himachal Pradesh.

Note: 1. Sex Ratio at Birth (SRB) is defined as number of males per 100 females.  
 2. '—' Indicates data not available.

pregnancy. Widely available sex-selection technologies, at affordable prices, with little social or legal hurdles till recently, seem to have made intervention possible for couples, either at conception or during early pregnancy.

### Sex Preference

Changes in juvenile (0-6) sex ratio can be linked to the overall preference for the male child in many areas of Himachal Pradesh. Strong male dominance in property transfer, focus on male-centric rituals and kinship system, inadequate appreciation of women's economic contribution, absence of strong social reform movements, etc., have contributed to higher value of the male child among many communities in Himachali society. In modern Himachal Pradesh, in spite of the rise in female education and legal support, there are many reasons, in popular perception, for not having a female child. Here, the position of the daughter-in-law in the family is defined, on her arrival, to the culturally sanctioned urgency of producing a child, preferably a son.

In spite of economic progress, institutional arrangements, constitutional support and educational campaigns, preference for a male child among the couples still persists in Himachal Pradesh. As indicated in NFHS, the fall in mean ideal number of children between 1992 and 1999 for ever-married couples in the state from 2.4 (1.3 sons, 0.8 daughters and 0.3 children of either sex) to 2.2 (1.1 sons, 0.8 daughters and 0.3 children of either sex) can be associated with decline in son preference. This welcome sign is mixed, as it also comes with a virtual stagnation in the desire for daughters among the couples during the same period. The fact that among ever-married women in 1999, 88 per cent of the couples wanted at least a son and 79

per cent at least a daughter, 26 per cent wanted more sons than daughters and 0.6 per cent more daughters than the sons, highlights how the desire for a male child is entrenched in Himachal Pradesh.

### Sex-Selective Abortions

Theoretically, in the absence of significant disparity in net migration, age reporting, and gender differences in mortality for the males and females in the under-five age group, the strong desire for a male child makes the sex ratio at birth increasingly masculine either through the adoption of 'stopping rule' or sex-selective abortions. In Himachal Pradesh, it is likely that a sizeable share of female foetuses are terminated during pregnancy. Data on the nature and scale of abortions in the state do not indicate such a scale of pregnancy terminations as to result in a highly masculine sex ratio at birth. Recent large-scale surveys do not establish a somewhat higher incidence of such abortions in Himachal Pradesh than the national average. Direct data too do not suggest acceleration in induced abortions between 1992-93 and 1998-99 in Himachal Pradesh (Table 5.16), in line with the expected impact of the proliferation of sex-determination clinics and their users in the 1990s. Since most of the MTPs are done in the private sector, the number of MTPs indicated by official statistics, fluctuating between the lowest of 4905 (in 1995-96) and the highest of 5938 (in 1996-97) during 1994-95 and 1999-2000 do not reflect the reality. Interestingly, much of these MTPs are attributed to failure of contraception by the couples.

Notwithstanding the above statistics, most likely underestimates, induced abortion is well accepted in many parts of Himachal Pradesh, transcending communities, castes and economic groups. A recent survey in Bhawarna Block (Kangra) shows that among

238 currently married women, a total of 8.4 per cent had induced abortions (CRRID, 2000). Illiterate women and women in socially backward communities, landless and poor households have been observed resorting to voluntary termination of pregnancy in this survey. The motives, methods and consequences of such sex-selective abortions need to be examined in detail. The popularity of sex determination tests is clear from the fact that in Himachal Pradesh among mothers who received antenatal check-ups, 15 per cent received ultrasound or amniocentesis three years before 1999 (Arnold *et al.* 2002).

TABLE 5.16

**Pregnancy Outcomes for Ever-married Women, India and Himachal Pradesh (1992-93 to 1998-99)**

Nature of Outcome	Last Pregnancy after 1.1.95		Himachal Pradesh		India	
	H.P.	India	1992	1998-99	1992	1998-99
Spontaneous abortion	1.9	1.9	6.0	4.5	4.5	4.4
Induced abortion	0.7	1.1	1.3	1.6	1.3	1.7
Still birth	1.3	0.8	2.7	2.6	2.3	2.0
Live birth	96.0	96.2	90.0	91.3	92.0	91.9
<b>All</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: 1. National Family Health Survey (NFHS) 1992-93 and 1998-99: India and Himachal Pradesh.

2. Rapid Household Survey (RHS), Phase I, India, 1998.

Effects of sex imbalances are manifold in terms of social, cultural and economic consequences. It is widely believed that deficit of females lead to rise in spousal age gap through 'marriage squeeze', replacements of intra-family female discrimination by inter-family female discrimination, change in dynamics of household economy, besides crime against women and others. Sex selection cannot be contained unless son preference is dismantled, unabated commercialisation of health services are checked, the government health sector improves services dramatically to offset attraction by the private sector, the Pre-natal Diagnostic Technique (Regulation and Prevention of Misuse) Act, 1994 is implemented and more couples are sensitised through social movements. But the final blow to female foeticide may come from the rejection of social practices like dowry and true economic empowerment of females in society. The Government of Himachal Pradesh has initiated some steps to counter the trend, which include greater focus on districts bordering Punjab, awareness campaigns, co-ordination with the departments of Education, Social Welfare, and *Panchayati Raj*, motivation of health workers at the district and

below, following up of pregnant women while giving antenatal care till the end of child bearing, etc. The results of such exercises are yet to be assessed.

### Demographic Ageing

When a society, with a sizeable share of younger population, is transformed into another with a sizeable share of older population, the average age of the entire population rises. In the absence of substantial in-migration of younger population, falling mortality and fertility inevitably lead to population ageing during the course of demographic transition. In India, high fertility has maintained, for long, youthfulness of the population. With the onset of fertility and adult mortality decline, the percentage share of the aged, 60 years and above, in the total population increased from 5.63 in 1961 to 6.70 in 1991 and to 7.90 in 1998-99. After Kerala (8.82%), Himachal Pradesh has a higher share of the aged in its population (8.12%), followed by Punjab (7.84%) among the major states in India according to the 1991 Census. The most recent estimate from NFHS puts the proportion of population in the age group 60 and above in Himachal Pradesh at 10.0 per cent in 1998-99. Existing projections also indicate a consistent and long-term rise in the proportion of elderly population in most of the Indian States, including Himachal Pradesh (RGI 1996). Notwithstanding the low percentage of the elderly in India at present, the issue of ageing assumes added significance due to their sheer numbers in absolute terms, greater incidence of poverty, wider vulnerability and lack of social security in old age in a fast changing economic and social structure and extensive disparity among the regions.

### Expectation of Life

Improvements in living conditions and health have continuously led to reduction in overall mortality levels across sections of the society and this has led to, on an average, a longer life span for individuals in Himachal Pradesh. The fact that mortality declines in the state have immensely contributed to population-ageing is clear from the data on rising expectation of life at birth and at ages 60, 65 and 70 and above, between 1970-75 and 1991-95 (Table 5.17). In the backdrop of national gains in longevity for both sexes, increments in life expectancy have been much higher in Himachal Pradesh.

Females in the state benefited more than males from the increase in life expectancy in tune with the national trend between 1970-75 and 1991-95. In approximately 21 years, increment in female life expectancy has exceeded the increment in male life

expectancy at birth and at selected ages. Males and females in Himachal Pradesh have had their longevity at birth increased by 17 per cent and 27 per cent respectively as against 12 per cent and 20 per cent respectively, at the all-India level during this period, making gains of 9.3 and 13.8 years, respectively.

TABLE 5.17

**Life Expectancy at Selected Ages, India and Himachal Pradesh (1970-75 to 1991-95)**

At age (in years)	Period	India		Himachal Pradesh	
		Male	Female	Male	Female
0 (At birth)	1970-75	50.5	49.0	54.8	50.9
	1976-80	52.5	52.1	58.1	54.9
	1981-85	55.4	55.7	58.5	62.9
	1986-90	57.7	58.1	62.4	62.8
	1991-95	59.7	60.9	64.1	64.7
Increase*		9.2	11.9	9.3	13.8
60	1970-75	13.4	14.3	15.1	13.1
	1976-80	14.1	15.9	15.8	15.2
	1981-85	14.6	16.4	15.1	18.2
	1986-90	14.7	16.1	16.8	17.5
	1991-95	15.3	17.1	18.6	16.2
Increase*		1.9	2.8	3.5	3.1
65	1970-75	10.9	11.6	12.9	10.1
	1976-80	11.7	13.2	12.8	12.6
	1981-85	12.0	13.6	11.8	14.8
	1986-90	11.9	12.9	13.9	14.0
	1991-95	12.5	13.9	15.9	12.5
Increase*		1.6	2.3	3.0	2.4
70+	1970-75	8.6	9.2	9.6	7.6
	1976-80	9.6	10.9	10.5	10.4
	1981-85	9.7	11.0	9.3	12.8
	1986-90	9.4	10.0	11.2	10.9
	1991-95	10.0	11.0	13.3	9.4
Increase*		1.4	1.8	3.7	1.8

Source: Ageing Population of India: An Analysis of 1991 Census Data, Registrar General, India.

Note: \* Increase between 1970-75 and 1991-95.

With gains in the average life expectancy being substantial in the state as observed, survival to a higher age is increasing, and causing a continuous rise in the numbers and percentages of persons aged 60 and above in both rural and urban areas (Table 5.18). Rise in the share of male and female elderly in Himachal Pradesh, when considered against the national context, is on the higher side. The old age population in this tiny state increased from 0.25 million in 1971 to 0.42 million in

1991 and seems to have touched 0.6 million mark at the turn of the century, thus causing a gigantic 145 per cent rise in 30 years. The female aged population multiplied by 2.68 times (from 0.105 million to 0.281 million) in three decades as opposed to 2.24 times rise (from 0.143 million to 0.321 million) in male elderly numbers between 1971 and 2001.

TABLE 5.18

**Share of Aged (60 and above) in Total Population, India and Himachal Pradesh (1971 to 1998-99)**

Year	India			Himachal Pradesh		
	Rural	Urban	Total	Rural	Urban	Total
1971	6.21	4.98	5.97	7.4	4.3	7.2
1981	6.84	5.36	6.49	7.7	5.1	7.5
1991	7.11	5.75	6.70	8.4	5.4	8.1
1998-99*	8.10	7.30	7.90	10.0	8.4	10.0

Source: 1. Ageing Population of India: An Analysis of 1991 Census Data, Registrar General, India.

2. \* National Family Health Survey (1998-99).

In two decades since 1971, for which the census data on ageing is available directly, one gets some impression of how fast Himachal Pradesh is moving towards 'demographic' ageing. For each sex, males and females separately, the fact that average growth in the number of those aged 60 and above is higher than the average growth of population in all ages in respective categories, is a strong pointer to the foundations of ageing. Himachal Pradesh is not an isolated case as the scene here corresponds broadly with the national scene. The average annual growth rate among the elderly in Himachal Pradesh varied considerably by sex and age. Between 1971 and 1991, the population of elderly women rose from 0.10 to 0.20 million and that of elderly men from 0.14 to 0.22 million; the growth rate of the former exceeding the growth rate of the latter, indicating a faster pace of ageing among the females as against males in the state (Table 5.19). Among both male and female elderly population, growth rates of the 'young-old' population (aged 60-79) exceeded those of the 'old-old' (aged 80 and above).

#### Condition of the Aged

Unfortunately, not much is known about the old-age population in Himachal Pradesh, except their basic conditions of living. As the 1991 Census summarises, the elderly (aged 60 and more) in the state are primarily rural based (94%), literate with education up to primarily level (62%), source of substantial workforce

TABLE 5.19  
Average Annual Growth Rate of Aged Population,  
India and Himachal Pradesh (1971-91)

Age (in completed years)	Himachal Pradesh		India	
	Male	Female	Male	Female
60+	2.77	4.42	3.70	3.63
All ages	2.41	2.54	2.73	2.70
60-69	2.40	3.64	3.27	3.40
70-79	3.24	6.04	4.12	3.97
80-89	3.85	6.00	5.93	4.54
90-99	3.20	5.01	5.39	4.16
100+	1.04	0.22	1.25	0.47

Source: Ageing Population of India: An Analysis of 1991 Census Data, Registrar General, India.

Note: Figures are in per cent.

(participation rates for total workers being 65 per cent for males and 28 per cent for females) and are cultivators (85% of total male and 95% female workers in main category).

The 52<sup>nd</sup> round of survey of National Sample Survey (NSS) also brings out the socio-economic profile of the aged in Himachal Pradesh. With regard to marital status, the aged males are primarily currently married (79% in rural areas and 77% in urban areas) and aged females are mostly widowed (64% in rural areas and 66% in urban areas). Living arrangements of the elderly vary on the basis of their sex rather on the basis of place of residence. Less than one per cent of the elderly in the state live alone, either as an inmate of an old age home or outside such a home. In rural areas, a majority of aged males (63%) stay with spouse and other members of family, as against aged females who stay with children but without spouse (54%).

Data on the state of economic independence of the aged indicate that the males (57% in rural areas and 61% in urban areas) are financially independent for livelihood, unlike the females who were fully dependent on others (49% each in rural and urban areas). Among those elderly who are fully dependent on others for economic reasons, 43 per cent in rural areas and 49 per cent in urban areas have to depend on more than one person to eke out a living, at times as many as nine. In old age, own children are the most reliable and important sources of financial support, both for males (87% in rural areas and 82% in urban areas) and females (79% in rural areas and 64% in urban areas). Self-employed agriculture is the usual activity for the elderly (54% male and 36% female) in rural areas, whereas self-

employment in non-agricultural activity and domestic chores are the commonly reported activities in old age by males (24%) and females (51%) respectively. The ownership of property and financial assets among the elderly is higher for males than for females, though such female-male disparity is lower in urban areas (0.951 and 0.821) than in rural areas (0.712 and 0.777) of the state. The same pattern is also observed with regard to management of property and financial assets in the state. In the social sphere, the elderly make significant contribution. Irrespective of sex, they are overwhelmingly involved in activities and participate fully in social and religious matters and participate in the household chores. The participation rates for aged persons being as high as 85 per cent in social matters, 89 per cent in religious matters, and 81 per cent in household chores in rural areas, and 95 per cent, 98 per cent and 88 per cent household respectively in urban areas.

Morbidity figures indicate that during old age, women tend to report more ailments than men, and those residing in towns and cities more than those living in villages. Reported health problems are broadly similar between the sexes in old age. Men mostly report problem of joints, followed by cough, high/low blood pressure, urinary problem and heart disease, and women chiefly complain of problems in the joints, high/low blood pressure, cough and heart disease in Himachal Pradesh when they cross the age of 60. Besides these, old men mostly report visual, hearing and locomotor disabilities and old women visual, hearing, locomotor and amnesia or senility disabilities.

#### *Implications of Ageing*

Rise in the proportion of the elderly in the scale observed and expected in Himachal Pradesh, has multifaceted consequences that need to be addressed seriously. These broadly relate to continuing social, economic, cultural, technological and health transformations in the society. Specifically, these implications can be elaborated as changes in marital status, newer living arrangements, widespread age and gender discrimination, ongoing epidemiological transition, frequent loneliness and depression, impairment of functional status leading to disability, lowering of socio-economic status, decline in family support, non-availability of social security, lack of care-giving, vulnerability to natural disasters, restructuring of economy, etc. One such implication in financial terms relates to the burden of pension and retirement benefits. The committed expenditure of the state on wages and pension and retirement benefits grew in

Himachal Pradesh from Rs. 118.4 crore in 1995-96 to 494.9 crore in 2002-03 (Budget estimate). There is need for more research and documentation in these areas for effective intervention.

#### *Need for Suitable Measures*

At the national level, the *National Policy on Older Persons* (NPOP), announced in 1999, recommends a series of steps that help to deal with issues related to ageing. Similarly, the Action Plan outlined in the *National Population Policy 2000* emphasises the need for greater care for older persons. In Himachal Pradesh, there is need to assess the progress that has been made till date under NPOP and encourage continuing support to the elderly at various levels. For instance, the Social Old Age Pension Scheme (for social security to helpless older persons aged 60 and above) and National Old Age Pension Scheme (social security to persons above 65 years of age) are two direct interventions aimed at restoring the financial stability of individuals with an aid of Rs. 200 per month to deserving cases. Need for 'Old Age Homes' and 'Day Care Centres' for the aged in Himachal Pradesh are also to be assessed in the state. Besides these schemes, the Department of Welfare for Social, Women and Scheduled Castes and Scheduled Tribes also has a number of other programmes in tandem that can indirectly help the aged in the state. It is essential to take a fresh look at these programmes.

For the welfare of individuals during their twilight days, some complementary measures are needed. These include motivation of individuals to make provision for their own as well as their spouse's old age, and other old family members; ensuring primacy of non-institutional care; added protection for vulnerable elderly such as widows, frail, handicapped, abused and destitute; promotion of geriatric health care and services, monitoring, evaluation and upgradation of services for the elderly; fostering inter-sectoral partnership and spread of awareness for the elderly. Involvement of the district administration, local self-government, NGOs and *Panchayati Raj* institutions and self-help groups in devising integrated programmes, also need to be initiated and examined. The actions for a regime of productive ageing must move beyond progress in the establishment of old age homes to a broad system of social security, which incorporate equity concerns for caste, gender, resources and other disadvantages. Such an attempt will make the current and future initiatives and measures more meaningful and relevant to the needs and welfare of the aged.

While dealing with ageing in Himachal Pradesh, lessons have to be drawn from other ageing societies, so that the mistakes of treating the problem primarily as an issue of health care and economic empowerment, is repeated in policy planning for the elderly. In addition to these two aspects, the social and emotional dimension of ageing must be addressed, if its onslaught is to be effectively dealt with. For a regime of 'productive ageing', foundations for a new philosophy of ageing is essential, where older persons are active contributors to society rather than mere consumers.

#### **Civil Registration**

Civil Registration System (CRS) is a continuous, permanent and compulsory recording of occurrences and characteristics of vital events (birth, death, marriage, separation, pregnancy, etc.) as defined in and provided through decree or regulation in accordance with the legal requirements of the country. Registration of vital events in any population is of paramount importance for the individual and the state. With the state increasingly assuming a greater role in the life of an individual, the need for registration of such events is progressively felt for legal, protective, administrative and statistical uses. Admission to the school, exercise of voting rights, ownership and transfer of property, insurance entitlements, social security benefit, employment provisions, emigration, foreign visits, etc. are few of such uses. An efficient registration system is an asset in micro-planning for the health sector, particularly in serving the underserved population groups. For example, registration of pregnancies and births can boost the immunisation impact. In view of this, the *National Population Policy 2000* stresses the need to achieve 100 per cent registration of births, deaths, marriages and pregnancies in the country by 2010.

Registration of Births and Deaths Act 1969, which enables the Central Government to regulate registration and compilation of vital statistics in the country so as to ensure uniformity and comparability, leaving enough scope to the states to develop efficient system of registration suited to regional conditions and events, was implemented in the state on 1<sup>st</sup> April 1978. Himachal Pradesh Births and Deaths Registration Rules 2003 also extend the provisions of this Act. Currently, the births and deaths occurring anywhere in the state are required to be registered within 21 days of the events taking place at the usual residence. If events are not registered within this stipulated period, late registration can be allowed with payment of a late fee and following a predefined procedure. Besides

registering births and deaths, information is also collected on some key social and economic aspects in the specified form. There are 3,037 rural and 57 urban registration units in the state. The Director of Health Services in the state is the Chief Registrar (Births and Deaths). The Chief Medical Officer and District Health Officer of the district are his subordinates as District Registrar (Births and Deaths) and Additional District Registrar (Births and Deaths), respectively.

Himachal Pradesh has relatively a better civil registration system as compared to other states in India. Considerable improvement in the CRS seems to have been achieved during late 1990s in spite of the constraints of remoteness of villages in the state. Though nearly 100 per cent registration of births is claimed in the state, some would urge independent verification of reported efficiency (Table 5.20). Vital statistics, as recorded in the CRS, are regularly published and available for the lower administrative units such as the developmental blocks and *Panchayats*. This can largely be attributed to initiatives that the state has adopted in making registration 'People centred'. *Panchayats* in the rural areas are assigned the tasks of registration. Regular campaigns are conducted all over the state to sensitise the public on the importance of such registration and educational materials are widely distributed to educate the public. The campaigns launched by the Department of Health and Family Welfare have the patronage at the

highest level in the state and leading public dignitaries, including the Chief Minister and other Ministers, often appeal to the public on importance of registration. Regular orientation courses are also conducted for the 'Local Registrars' for training on the subject. A state-level 'Coordination Committee' under the chairmanship of Secretary to Government (Health and Family Welfare) is also constituted to look into the reported shortcomings of the CRS.

In spite of the strides that Himachal Pradesh has made in streamlining the CRS, there are some areas that need greater attention. For example, registration deaths are lower than the registration of births. Particularly, the deaths during neonatal period are a matter of concern as they are not registered. Such under-reporting of deaths

FIGURE 5.9

CBR as Reported by CRS and SRS, Himachal Pradesh (1991-2001)

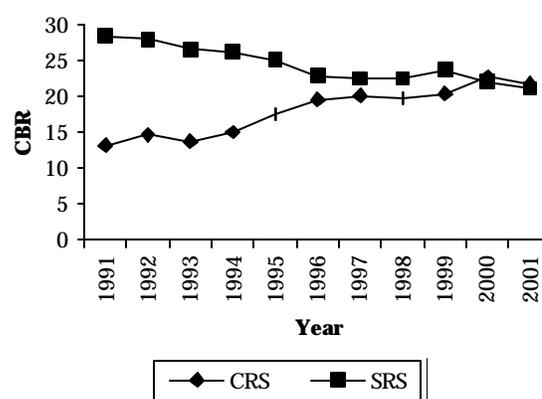


FIGURE 5.10

CDR as Reported by CRS and SRS, Himachal Pradesh (1991-2001)

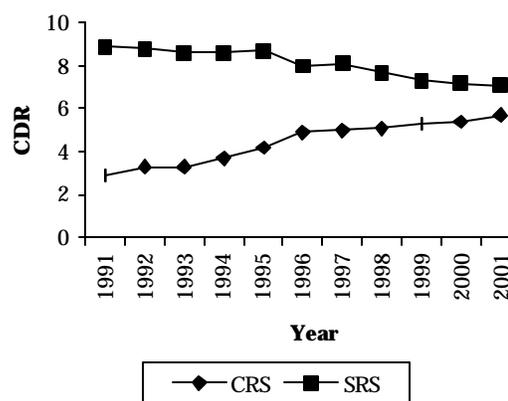


TABLE 5.20

Efficiency of the CRS, Himachal Pradesh (1991-2001)

Year	CBR		CDR		Level of Efficiency of the CRS	
	CRS	SRS	CRS	SRS	CBR	CDR
1991	13.2	28.5	2.9	8.9	47.1	33.3
1992	14.7	28.1	3.3	8.8	52.8	37.4
1993	13.8	26.7	3.3	8.6	51.3	37.8
1994	15.1	26.3	3.7	8.6	57.9	42.5
1995	17.6	25.2	4.2	8.7	70.8	49.6
1996	19.6	23.0	4.9	8.0	85.4	61.0
1997	20.2	22.6	5.0	8.1	89.3	61.8
1998	19.8	22.6	5.1	7.7	87.7	66.3
1999	20.4	23.8	5.3	7.3	86.6	72.7
2000	22.9	22.1	5.4	7.2	94.7	74.8
2001	21.8	21.2	5.7	7.1	98.9	79.4

Source: 1. *Civil Registration System (CRS), Annual Report 2002*, Chief Registrar of Births and Deaths and Director of Health Services, Himachal Pradesh.

2. *Statistical Report (different issues) and SRS Bulletin*, April 2003, Registrar General, India.

Source: *Civil Registration System (CRS), Annual Report 2002*, Chief Registrar of Births and Deaths and Director of Health Services, Himachal Pradesh.

needs to be corrected by policy measures, and if need be through local and temporary incentives. Regional variations in the registration of demographic events also merits extra inputs and the districts and blocks consistently showing relatively poor performance be closely monitored. Awareness needs to be increased for registering the marriages. Though in villages and towns the marriages are registered with the same authority as births and deaths, yet the marriage statistics are forwarded to the Department of Social Welfare and not to the Department of Health and Family Welfare. Not much is known about the marriage registration, as the data on marriage statistics are neither readily available nor published by the Department of Social Welfare. Some argue that marriages are widely registered because of the need to obtain the ration cards, while many attribute poor registration of marriages to selective necessity, namely the emigration or marriage against the wishes of parents. More training and monitoring camps need to be organised in far-off areas. Uninterrupted supply of forms and other stationeries to local units required for record keeping also need to be addressed. There is a need to educate the migrant groups more. Moreover, greater functional coordination between the Joint Registrar General, local representative of Registrar General, India and Chief Registrar (Births and Deaths) is desired for meaningfully training the concerned staff and collecting, utilising and disseminating the data on vital statistics. This is more relevant in the context of long-term goal of replacing the Sample Registration System (SRS) with the Civil Registration System (CRS). Involvement of the data users at some stage may also add to the benefits of gathering information on births and deaths. There needs to be micro-filming of old records for preservation or computer storage of early registration figures in those units, which have data before and immediately after independence for protection for better understanding of historical demography in the state. Measures to protect such historical data from hazards like fire, etc, are also recommended.

### **Demographic Challenges and Opportunities: Perspectives For Future**

Himachal Pradesh has done exceedingly well in expanding basic amenities and infrastructure. Attempts at further economic and social development must also include focus on demographic dynamics. The demographic challenges the state faces today are manifold and steps are needed to address these concerns. Demographic goals may be easily articulated, quantified and enunciated in policy documents, but

translating them into reality is difficult and time-enduring. This is why demographic programmes have long gestation periods before yielding results. Anchored strongly in the economic and social conditions of the people, the fate of human resources in the state is going to be tied to progress in other areas. Bringing about desired behavioural changes in the target population and influencing demographic development is complex and profoundly influenced by the strategies of economic development and overall improvement in living standards. Moreover, unlike other areas, the externalities are crucial to demographic attainments and there is a great deal of interdependence between population dynamics in the state and events outside, in-migration being a case in point.

The contours of population planning in Himachal Pradesh must go beyond the elementary goals set in the National Population Policy or outlined in *Health Vision 2020*. Demographic priorities need to go beyond the domain of health and cover grounds that are central to larger issues of human development. Some of the direct and foreseeable demographic challenges that Himachal faces today can be listed as attainment of replacement level of fertility, elimination of early-age marriage and child-bearing, investment in health care of the newborn through low cost ventures to further reduce infant mortality including neonatal deaths, getting rid of sex-selection and practice of female foeticide, balancing a skewed sex ratio that is highly masculine among children, eliminating extensive son-preference, raising low hospital delivery rates, curtailing the birth of low-weight babies, bringing down undesirable maternal deaths, changing the unfavourable demographic regime among socially and economically weaker sections, mainstreaming the marginal migrants groups, meeting the unmet need for contraception, promoting men's participation in family planning, removal of demographic disparity among the districts and preparations for dealing with an ageing population. In an ecologically-sensitive state like Himachal Pradesh, population and development linkages envelop environmental concerns that need to be addressed satisfactorily. At one level, these thematic areas must be at the core of a series of actions by the state, whereas at the other, some critical areas should be simultaneously considered to make the thematic outcomes successful.

Increasing private sector participation to supplement government's effort in the health sector is a daunting task in view of low levels of urbanisation and extensive spread of rural population over 20,000

villages in a difficult terrain. This also has implications for the achievement of demographic goals in the state. In rural areas, General Hospitals, Civil Dispensaries, Community Health Centres, Primary Health Centres, and Sub-Centres are not fully equipped to respond to people's needs, which are mounting due to better literacy and awareness. These centres are known to have constraints that prevent optimum utilisation of their services. Since family planning is largely seen as a government's initiative and implemented mainly through the health department, public health sector performance is critical to the success of the family planning programme.

Another area, which merits attention, is the need for greater public participation. Broad-basing community participation implies not only greater involvement in programme-implementation but in policy formulation as well. Often schemes fall short because they do not reflect the needs and concerns of the people with changing times. With the 73rd and 74th Constitutional Amendments providing a framework for grassroots devolution and local participation, efforts to stabilise population can only succeed if the functions, functionaries and funds are used in tune with expectations of the public at all levels. Related with this is the identification of fringe and vulnerable groups and ensuring that their legitimate interests are well represented in programme formulation and implementation. Scheduled Caste and Scheduled Tribe population, migrant groups, landless households, etc., constitute such marginalised sections whose demographic profiles may need more attention. Creating adequate opportunities for these groups, and safeguarding their interests is another major task in the future for achieving demographic goals. The current programme interventions do not address gender disparities adequately. Much of the success in population and related programmes depends on how the issues that confront women and children are reflected in the policy and programme priorities. Since women are at the centre of demographic change, creating a mechanism that is sensitised towards their position in society, will also determine the success of initiatives by the government.

Reliable, long-term and cross-sectional data, aid demographic assessments and make policy formulations and programme interventions accurate as well as focused. In Himachal, there is need to encourage indigenous data generation, particularly in the course of programme intervention in areas such as birth statistics, neonatal mortality, birth weights, termination of pregnancies, etc. Upgradation of the

registration system at the village level, side by side with overhauling present data collection, compilation, management and use-systems, are called for, as the current information management system is unable to keep pace with the rapid and ongoing changes in the society. Useful data, thematically oriented and geared to shifting priorities, have to be regularly collected and whatever is collected has to be rigorously tested, systematically compiled, and made accessible to the public through regular and priced publications. The focus on segregation at various levels is lacking, with maintenance of records in most of the health institutions deficient and unreliable. Utility of data management is yet to be fully understood and the meagre networking with nodal centres yields fewer inputs to field staff. There is need to examine the constraints and strong support to such endeavor, in terms of allocation of funds, qualified personnel and infrastructure.

Can the superiority of Himachal Pradesh in social development be retained for long, without taking a view of economic costs of such development? Spending on social development programmes in the state, it is often argued, have added to its current financial problems. Since sufficient enterprise is not available locally in Himachal Pradesh, and outside entrepreneurship is very nearly discouraged, the need is to augment the speed of, rather than turning, the demographic tide in Himachal Pradesh. This is possible, with the current higher ranking in human development being its great asset. Additionally, the state has some inherent healthy features that are the source of enormous advantage in population planning and weigh heavily in favour of attempts to define and shape demographic attributes. Relatively small population, low incidence of poverty, high accessibility and use of banking services, good ownership of motor vehicles for mobility and telephones for outside communication, wider access to basic amenities in terms of provision of tap water, larger share of households living in permanent houses and lower share of one-room dwelling units, modernisation of households with electricity as the source of lighting and separate kitchens and LPG use, less rural-and-urban gap in the provision of health services, household prosperity, regular media exposure through highly diffused television and radio possession, greater female literacy and participation in labour-force, greater community participation in public life, better women empowerment, etc., act as force-multipliers in intervention activities and hold out great promise for any effort to change the population profile.

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